Appendix A. Example of Invitation Letter, Information Enclosure, and Distribution List

March 28, 2001

<<Title>> <<Firstname>> <<Lastname>>
<<Company>>
<<Address1>>
<<City>>, <<State>> <<Postalcode>>

Dear <<Title>> <<Lastname>>:

The Idaho Department of Environmental Quality (DEQ) is hosting a series of three public involvement workshops to discuss the Water Body Assessment Guidance, Second Edition (WBAG). The guidance consists of three documents, the Water Body Assessment Guidance itself, and two technical support documents, Idaho River and Stream Ecological Assessment Frameworks. These two technical documents describe how DEQ collects water quality information relative to beneficial uses and water quality standards for rivers and streams, and the guidance details how this information is assessed to determine existing beneficial uses and whether or not the water body is impaired. Impaired water bodies are then placed on the 303(d) list, which are scheduled for Total Maximum Daily Load (TMDL) to bring them back into compliance.

DEQ encourages your participation in these workshops to discuss the second edition of the WBAG. Workshop dates, times and locations are provided in the attachment. Information on obtaining the referenced documents and submitting comments is also contained in the attachment. Please take the opportunity to attend one of the workshops, as they will only be as meaningful as attendance dictates. We look forward to establishing a meaningful dialogue with you in order to improve the process to protect water bodies in Idaho.

Sincerely,

Michael J. McIntyre

OPPORTUNITY TO LEARN MORE ABOUT IDAHO DEPARTMENT OF ENVIRONMENTAL QUALITY'S WATER BODY ASSESSMENT GUIDANCE (2ND Ed.)

A water quality assessment entails analyzing and integrating multiple types of data from water bodies to address four primary objectives:

- Determine existing uses in a water body.
- Determine the degree of beneficial use support of a water body.
- Determine the degree of achievement of biological integrity.
- Compile descriptive information about the water body.

In late April and early May the Idaho Department of Environmental Quality (DEQ) will sponsor three workshops in Moscow, Pocatello and Boise to seek public input on the following three draft documents describing how the State proposes to assess water quality:

- Water Body Assessment Guidance, Second Edition
- Idaho River Ecological Assessment Framework
- Idaho Stream Ecological Assessment Framework

DEQ's goal for the workshops is to concisely explain bioassessment techniques and regulatory requirements under the Clean Water Act, answer questions and solicit useful comments to improve the Water Body Assessment Guidance, Second Edition (WBAG). These workshops tie into the public comment process, **which has been extended an additional thirty days to June 1, 2001.**

The WBAG is a handbook of procedures to guide individuals through a standardized assessment process. It describes DEQ methods used to evaluate data and determine beneficial use support of Idaho water bodies. This document is a revision of the 1996 WBAG (DEQ 1996). The Idaho Stream Ecological Assessment Framework and Idaho River Ecological Assessment Framework are technical documents that support the WBAG.

EDUCATIONAL WORKSHOPS

Moscow: April 24, 2001, 8:30-4:30
University Inn
1516 Pullman Road
(Highway 8 or 3rd Street)
Moscow, Idaho 83843
(800) 325-8765

Boise: May 2, 2001, 8:30 -4:30
Idaho Department of
Environmental Quality
1410 N. Hilton
Boise, Idaho 83706
(208) 373-0502

Pocatello: May 8, 2001, 8:30-4:30
Westcoast Hotel (Cavannah's)
1555 Pocatello Creek Rd.
Pocatello, Idaho 83201
(208) 233-2200

The box above gives the specific dates and locations of the workshops. We encourage you to attend one of the workshops to learn more about the WBAG and provide input. The workshops will begin with a general presentation on DEQ's surface water program and overall goals. Workshop participants will then split into breakout sessions to discuss key technical and policy issues. If you plan to participate in a workshop, please review the draft documents and bring your questions or constructive comments to the workshop. A draft workshop agenda and information about where to find the referenced documents are provided below.

(Continued on Next Page)

For more information regarding the workshops, please contact Emily Charoglu with EnviroIssues at (208) 336-2505 or echaroglu@enviroissues.com

The WBAG, Idaho Stream Ecological Assessment Framework, and Idaho River Ecological Assessment Framework can currently be viewed in PDF format on DEQ's web site at: http://www2.state.id.us/deq/publist1.htm#W; http://www2.state.id.us/deq/publist1.htm#S; and http://www2.state.id.us/deq/publist1.htm#R respectively. Hard copies are also available for review February 1 – June 1, 2001, at:

- DEQ State Office: 1410 N. Hilton, Boise
- DEQ Regional Offices:
  - Boise: 1445 N. Orchard
  - Coeur d'Alene: 2110 Ironwood Pkwy, Suite 100
  - Idaho Falls: 900 N. Skyline, Suite B
  - Lewiston: 1118 "F" Street
  - Pocatello: 224 S. Arthur
  - Twin Falls: 601 Pole Line Rd., Suite 2
- The Idaho State Library and University of Idaho Library.

CD ROM available by request from Michael McIntyre (contact information below).

Draft Agenda – WBAG Workshop

TIME	AGENDA TOPIC
9:00AM	Introductions, Ground Rules, Agenda Review
9:30AM	WBAG Background and History/Q&A
10:30AM	WBAG Current Status/Q&A
11:00AM	Break
11:15AM	Example of Local WBAG Application/Q&A
12:00PM	Lunch – On Your Own
1:15PM	Key Technical and Policy Considerations
2:15PM	Facilitated Breakout Sessions on Technical and Policy Considerations
3:45PM	Break
4:00PM	Present Findings & Recommendations to IDEQ/Additional Comments from Group
4:30PM	Wrap Up Discussion

Comments on the draft documents must be received by 5 p.m., Friday, June 1, 2001 and should be submitted to: Michael McIntyre, DEQ State Office, 1410 N. Hilton St., Boise, ID 83706-1255. Email: mmcintyr@deq.state.id.us

IF YOU PLAN TO ATTEND ONE OF THE WORKSHOPS, PLEASE FILL OUT THIS FORM AND RETURN TO:
Emily Charoglu, EnviroIssues, 1611 North 8th Street, Boise, ID 83702, OR fax this page to: 208-336-3570
OR email information to: echaroglu@enviroissues.com.

MOSCOW WORKSHOP_____ BOISE WORKSHOP_____ POCATELLO WORKSHOP_____

Name:_____

Organization Representing:_____

Address:_____

City:_____ State:_____ Zip:_____

Phone:_____Email:_____

For more information regarding the workshops, please contact Emily Charoglu with EnviroIssues at (208) 336-2505 or echaroglu@enviroissues.com

Appendix B. List of Individuals Contacted for Pre-Workshop Interviews

Agidius, Paul Board of Environmental Quality and Clearwater Basin Advisory Group
Olmstead, Brent Idaho Association of Commerce & Industry
Barker, Rocky Idaho Statesman
Barrett, Cindy Lewiston Regional Office - DEQ
Bennett, Tony Idaho Department of Agriculture Soil Conservation District
Brandt, Darren Coeur d'Alene Regional Office – DEQ (formerly with the Twin Falls office)
Bridges, Marti Idaho Rivers United
Burley, Biff Idaho Department of Agriculture Soil Conservation District
Cowley, Ervin Bureau of Land Management
Cundy, Terry (Dr.) Potlatch Corporation and Clearwater Basin Advisory Group
Danehy, Bob Boise Cascade Company/Timberland and Resources
Gorsuch, Jane Intermountain Forest Industry Association
Grunder, Scott Idaho Department of Fish and Game
Gudgell, Dallas Idaho Conservation League
Hamanishi, Henry JR Simplot Company
Hayslip, Gretchen EPA Region 10

Heffner, Ken R-4/ Intermountain Region
Hill, Sheryl Idaho Falls Regional Office - DEQ
Hoyt, Marv Greater Yellowstone Coalition
Inyan, Barbara Nez Perce Tribe and Clearwater Basin Advisory Group
Lucas, Laird Land and Water Fund
MacMillan, Randy Clearsprings Food, Inc. and Upper Snake Basin Advisory Group
Marcum, Pamela Committee for Idaho's High Desert
Mosier, Dave Coeur d'Alene Regional Office - DEQ
Nelson, Greg (Dr.) Idaho Farm Bureau Federation
Nicolescu, Jerry Idaho Department of Agriculture Soil Conservation District
Pence, Tom Southwest Basin Advisory Group
Pimmentel, Theresa EPA Region 10
Robertson, Cindy Idaho Department of Fish and Game
Sedler, Liz The Lands Council & Alliance for the Wild Rockies
Semanko, Norm Idaho Water Users Association
Sica, Fred Henry's Fork Watershed Council
Smart, Steve High Country RC&D
Solomon, Mark Idaho Conservation League and Clearwater Basin Advisory Group
Sperry, Charlie Henry's Fork Stewardship Program
Steed, Bob Boise Regional Office - DEQ
Stewart, Daniel Grangeville Satellite Office - DEQ
Watkins, Ruth Panhandle Basin Advisory Group

Williams, Cindy Deacon Environmental Consultants (contracted by Idaho Conservation League)
Woodruff, Leigh Idaho Operations Office of EPA Region 10

Appendix C. Frequently Asked Questions

On The Department of Environmental Quality's
Water Body Assessment Guidance (Second Edition)

Table of Contents of Frequently Asked Questions

Frequently Asked Questions

1. What is the WBAG?

The Water Body Assessment Guidance (WBAG) is a handbook of procedures to guide assessors through a standardized assessment process for evaluating Idaho's waters. The WBAG describes Idaho Department of Environmental Quality (DEQ) methods used to evaluate data and determine if the existing uses and beneficial uses designated for an Idaho water body are supported. The guidance also includes DEQ policies for interpreting and implementing state and federal regulations.

Note that this document is intended solely as a guide to assist in the assessment of beneficial use status. It is not intended to determine whether a person, entity, or discharge is in compliance with state Water Quality Standards and Wastewater Treatment Requirements. This document is a revision of the 1996 WBAG ("WBAG I").

A water body assessment process, such as the WBAG, entails analyzing and integrating multiple types of water body data to address four primary objectives:

- Determine existing uses in a water body.
- Determine the degree of beneficial uses support of a water body.
- Determine the degree of achievement of biological integrity.
- Compile descriptive information about the water body.

The process encompasses several steps before DEQ determines use support. DEQ starts by planning and designing the monitoring program. Next, relevant data are collected through the Beneficial Use Reconnaissance Program (BURP). These data are then evaluated, analyzed, and aggregated to result in sound and consistent assessments. As a final step, assessments are summarized to meet state and federal reporting requirements. The WBAG is organized according to these steps.

2. Why is the WBAG important?

The WBAG provides a process by which Idaho determines whether water bodies meet water quality standards, which are designed to protect beneficial uses. If a water body does not meet water quality standards, it is said to be impaired. Once determined to be impaired, the water body is placed on the 303(d) list (Section 303 subsection "d" of the Clean Water Act). DEQ is required to submit a 303(d) list in April 2002. For waters on the 303(d) list, DEQ must establish total maximum daily loads (TMDLs) for each pollutant impairing the waters so that the water body comes back into compliance with Idaho water quality standards. Further, the agency must set appropriate controls to improve water quality and permit the water bodies to meet their designated and existing beneficial uses.

3. What is the current status of the WBAG?

WBAG I was issued in 1996 to assess DEQ data collected between 1993 and 1996. In the fall of 1996, DEQ implemented WBAG I to assess 1993-1996 DEQ data. Since that time, DEQ has been modifying and improving the WBAG process. The second edition (WBAG II) is currently undergoing a public review process before its final issuance. Comments have been accepted since February 1, 2001, and will continue to be accepted through June 1, 2001. During the summer of 2001, DEQ will respond to comments and will then issue the final WBAG II.

4. Why is DEQ holding the workshop on the WBAG II?

DEQ regulations only require DEQ to solicit comments on WBAG II. However, due to the technical nature of the WBAG, DEQ is hosting a series of three workshops to explain the WBAG process and bioassessment techniques, convey regulatory requirements, answer questions, and solicit useful comments to improve WBAG II. DEQ believes that engaging stakeholders in an early and open process will help achieve a better water body assessment process for Idaho.

The table shows the workshop times and locations.

WBAG II EDUCATIONAL WORKSHOPS		
Moscow: April 24, 2001 8:30-4:30 **University Inn** 1516 Pullman Road, (Highway 8 or 3rd Street) Moscow, Idaho 83843 (800) 325-8765	**Boise: May 2, 2001** 8:30 -4:30 **Idaho Department of Environmental Quality** 1410 N. Hilton Boise, Idaho 83706 (208) 373-0502	**Pocatello: May 8, 2001** 8:30-4:30 **Westcoast Hotel (Cavannah's)** 1555 Pocatello Creek Rd. Pocatello, Idaho 83201 (208) 233-2200

5. How can I make comments on the WBAG II?

Comments on the Water Body Assessment Guidance (second edition) and the Idaho Stream Ecological Assessment Framework and the Idaho River Ecological Assessment Framework, technical components to the WBAG, should be made in writing and submitted, by 5 p.m., Friday, **June 1, 2001**, to: Michael McIntyre, DEQ State Office, 1410 N. Hilton St., Boise, ID 83706-1255. Email: mmcintyr@deq.state.id.us.

6. What is DEQ's schedule for completing the WBAG II after these workshops?

After June 1, 2001, DEQ plans to complete the WBAG II and address or respond to comments on the WBAG II within 60 days. In August or September 2001, DEQ intends to issue responses to comments and its final version of the WBAG II. Thereafter DEQ will perform the water body assessments and develop a draft 303(d) list, which is anticipated to become available in December 2001 for public comment and is due to EPA in April 2002.

7. Where can I obtain a copy of the WBAG II?

WBAG II, Idaho Stream Ecological Assessment Framework, and Idaho River Ecological Assessment Framework can currently be viewed in PDF format on DEQ's web site at: http://www2.state.id.us/deq/publist1.htm#W; http://www2.state.id.us/deq/publist1.htm#S; and http://www2.state.id.us/deq/publist1.htm#R, respectively. Documents are also available in CD ROM by request to Michael McIntyre, DEQ State Office, 1410 N. Hilton St., Boise, ID 83706-1255. Email: mmcintyr@deq.state.id.us.
Hard copies are also available for review February 1 – June 1, 2001, at:

- DEQ State Office: 1410 N. Hilton, Boise
- DEQ Regional Offices:
  - Boise: 1445 N. Orchard
  - Coeur d'Alene: 2110 Ironwood Pkwy, Suite 100
  - Idaho Falls: 900 N. Skyline, Suite B
  - Lewiston: 1118 "F" Street
  - Pocatello: 224 S. Arthur
  - Twin Falls: 601 Pole Line Rd., Suite 2
- The Idaho State Library and University of Idaho Library.

8. What are the regulations that dictate the WBAG process?

The Clean Water Act and Idaho Water Quality Standards drive the assessment process. Each regulation is briefly described below:

- **Idaho Water Quality Standards.** These are state-adopted and EPA-approved ambient standards for water bodies. The standards prescribe the use of the water body and establish water quality criteria that must be met to protect designated uses.

- **Clean Water Act.** DEQ has reporting requirements for the 303(d) list, 305(b) report, and subbasin assessments.

- 305(b). This refers to Section 305 subsection "b" of the Clean Water Act and describes a report of each state's water quality. It is the principle means by which EPA, congress, and the public evaluate whether waters in the United States meet water quality standards, the progress made in maintaining and restoring water quality, and the extent of remaining problems.

- 303(d). This refers to Section 303 subsection "d" of the Clean Water Act and requires states to develop a list of water bodies that do not meet water quality standards. This section further TMDLs be prepared for listed waters.

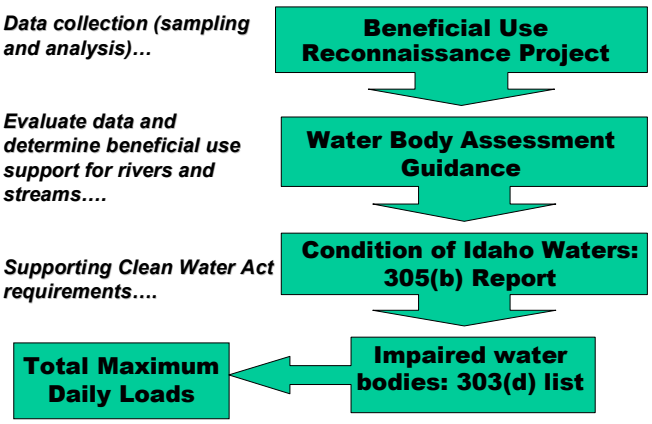
- Subbasin Assessments. This includes an evaluation and summary of current water quality status, pollutant sources, and control actions to date.

- **Idaho Clean Water Act Statutes.** These statutes require Idaho to fully comply with the federal Clean Water Act.

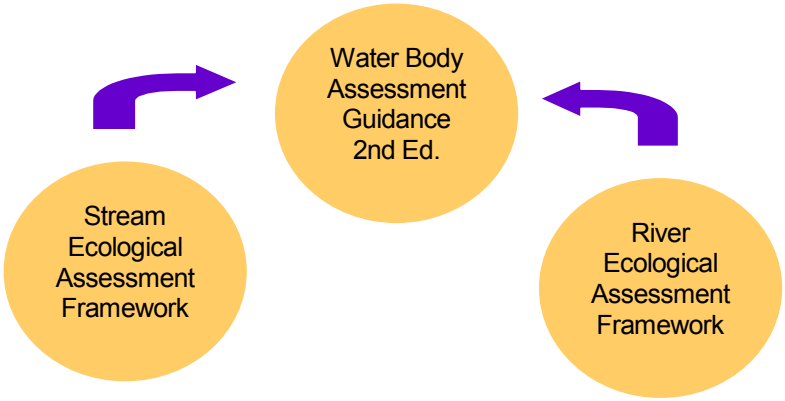
9. How does WBAG fit into existing activities related to surface waters?

The WBAG is a data assessment process that begins after data is collected through the Beneficial Use Reconnaissance Program and before the reporting of the conditions of Idaho waters through the 305(b) (report of conditions for all waters) and 303(d) list (report on conditions for impaired waters). The diagram to the right illustrates where the WBAG fits into the process.

WBAG in Relation to Other DEQ Activities…



10. How do the Idaho Stream Ecological Assessment Framework and Idaho River Ecological Assessment Framework fit into the WBAG process?



The Idaho Stream Ecological Assessment Framework and Idaho River Ecological Assessment Framework are technical documents that support the WBAG. Each document provides different guidance for evaluating small versus large waterways. For example, in determining aquatic life use support, small streams and rivers are handled differently. The assessment approach depends on water body size criteria, which results in use of different bioassessment tools (indexes) and different data integration methods.

11. What are Idaho's beneficial uses?

The state may assign or designate beneficial uses for particular Idaho water bodies to support. These beneficial uses are identified in the Idaho water quality standards. These uses are listed below.

- **aquatic life support** — cold-water biota, seasonal cold-water biota, warm water biota, and salmonid spawning
- **contact recreation** — primary (swimming) and secondary (boating)
- **water supply** — domestic, agricultural, and industrial
- **wildlife habitat and aesthetics**

The legislature designates uses for water bodies. Industrial water supply, wildlife habitat, and aesthetics are designated beneficial uses for all water bodies in the state. If a water body is unclassified, then cold-water biota and primary contact recreation are used as default designated uses when water bodies are assessed.

12. What are the indexes?

DEQ uses multimetric indexes to determine aquatic life use support. DEQ uses different indexes depending on whether the water body is classified as a stream or river.

Stream indexes include:

- Stream Macroinvertebrate Index
- Stream Habitat Index
- Stream Fish Index

River indexes include:

- River Macroinvertebrate Index
- River Diatom Index
- River Fish Index
- River Physicochemical Index

DEQ uses the integrated results from the appropriate multimetric indexes to evaluate subcategories (cold water biota and salmonid spawning) of the aquatic life beneficial use. DEQ applies appropriate numeric criteria separately for cold water biota and salmonid spawning before formulating a final aquatic life use support determination. In WBAG II, DEQ's scoring of indexes evaluates more information and uses a more integrated approach than the hierarchical, linear approach used in WBAG I.

A more detailed description of the indexes and their scoring can be found in Section 5 and Appendixes A and B of the WBAG II, as well as in the Idaho Stream Ecological Assessment Framework and Idaho River Ecological Assessment Framework documents.

13. What are the significant differences between the first and second edition of the WBAG?

Significant changes have been made since WBAG I. DEQ has coordinated more thoroughly with other state and federal entities to arrive at a more comprehensive assessment process. DEQ used a team approach during WBAG II development, coordinated with EPA, and consulted extensively with outside experts through a peer review process. Since the first edition of the WBAG, DEQ has developed or revised seven multimetric indexes; developed policies to address complex issues such as data representation, outside data evaluation, criteria exceedance, and salmonid spawning; obtained national peer-review of the Idaho River Ecological Assessment Framework technical document; and developed and coordinated the WBAG II and its supporting documents for public review.

With respect to the use of indexes in WBAG II, DEQ has developed bioassessment indexes based on the most current scientific methods, published indexes in peer-reviewed journals, consulted with outside experts to develop or revise most indexes, and consulted with outside experts to peer-review the new

methods (e.g., river process). Furthermore, most of new the policies adopted by DEQ are based upon EPA 305(b) guidance or precedents set by other states.

More specifically, some of the most significant policy improvements in the second edition of the WBAG include:

A. Data Representation Policy
B. Outside Data Policy
C. Criteria Exceedance Policy
D. Modified Policies for Aquatic Life Use Support and Other Beneficial Uses
   - Existing Beneficial Use
   - Data Integration Methods
   - Small Streams vs. Rivers
   - Salmonid Spawning

These policy improvements are described below.

A. Data Representation Policy

The data representation policy has been modified to ensure a stratified approach to guarantee more appropriate extrapolation, interpretation, representation, and to define boundaries for reporting impaired areas on the 303(d) list. The data representation policy guides the assessor in interpreting and extrapolating data for assessment purposes. The policy is based on a stratification approach using a geo-referenced system, known as the Water Body Identification System (WBID), as the foundation for extrapolating data results. Stratification is a classification method used to characterize comparable segments within each water body identified in the WBID system.

In essence, stratification provides a basis to appropriately compare and extrapolate data from sites. The stratification approach must be refined enough to identify suitable groupings of water bodies for assessment purposes, but not so detailed the number of water bodies to be assessed becomes unmanageable. The procedure is to stratify each WBID water body using land use and stream order criteria.

If no sample sites are located in a particular stratified grouping, DEQ identifies those miles as not assessed for that water body and then targets future sampling in that grouping within the context of the BURP monitoring design priorities.

DEQ uses mileage guidance for data representation of streams and rivers following EPA guidance. To assess wadeable streams for 303(d) listing, DEQ does not generally use a single site to represent more than 10 miles of stream. For river assessments, it is more difficult to identify a mileage limitation. In general, DEQ will limit data representation to 25 miles. However, if there are no significant influences, 50-75 miles may be more appropriate. The DEQ assessors are responsible for documenting their rationale if the stream or river mileage limitations are extended.

Furthermore, for the purposes of 303(d) reporting, DEQ uses monitored or Tier I data when assessing the impairment of a water body. If a site or group of sites is

not fully supporting, then DEQ establishes the boundaries of the impairment based on the stratification of stream order, the land use, and likely pollutant sources. The stream miles contained within these boundaries are reported on the 303(d) list.

B. Outside Data Policy

DEQ has created an Outside Data Policy for determining how DEQ considers existing and readily available data relating to the existence, support status, or associated criteria for the beneficial uses in a water body from other sources such as other agencies, institutions, commercial interests, interest groups, or individuals. If DEQ receives data compatible with BURP in an electronic format for a water body, the data will be incorporated directly into the appropriate aquatic life assessment indexes.

A description of what qualifies as BURP-compatible data is located in Section 3.1 of the WBAG II. If DEQ receives other outside data, it will be assigned to a tier based on the scientific rigor and relevance of data. DEQ uses Tier I data, the most rigorous and relevant data, for 303(d) and 305(b) subbasin assessments. Tier II data, because it is less rigorous and relevant, is only used for reporting water body conditions on the 305(b) list and for making subbasin assessments. Finally, Tier III is used for planning and is held for further investigation because it is data that has not been tested well for reliability. More detailed descriptions of the scientific rigor required for each tier of data can be found in Section 3.2 of the WBAG II.

C. Criteria Exceedance Policy

DEQ has also developed a criteria exceedance policy to further establish when an exceedance is a violation, distinguish between major and minor violations, and assist assessors in evaluating water bodies where water quality criteria are exceeded. DEQ generally employs a 10 percent rule based upon 303(b) guidance and other states in determining when a criteria exceedance is a violation. The intent of this policy is to allow the assessor the flexibility to consider the exceedance in context of the setting, time of year, and beneficial uses in determining if the exceedance leads to impairment, and thus is a violation of water quality standards. For each designated or existing beneficial use, DEQ will evaluate narrative and numeric criteria for exceedances. Not all criteria exceedances will result in a water body identified as impaired or not fully supporting its beneficial uses as noted above. Some criteria are exceeded under natural conditions or are exceeded temporarily and do not result in a permanent, negative effect on the beneficial uses.

D. Modified Policies for Aquatic Life Use Support and Other Beneficial Uses

DEQ has strengthened the overall aquatic life use support determination through the development/revision of its evaluation of existing beneficial uses, data integration methods (including a multiple data type integration policy for streams and rivers and an overwhelming score policy for streams), and multimetric indexes. Furthermore, DEQ has improved the evaluation of salmonid spawning by quantitatively considering fish integrity (SFI, RFI). These policy modifications are discussed below.

1. Existing Beneficial Use

   For undesignated streams, DEQ will identify if they have presumed uses determine their existing uses, which are those uses in existence since 1975. Existing uses that may be identified through the WBAG II Process include cold water aquatic life uses and salmonid spawning uses. Cold water aquatic life uses are indicated by macroinvertebrate cold water indicator taxa, fish cold water indicator taxa, fishery classification, or temperature data logger records. Salmonid spawning uses are indicated by the presence of juvenile salmonids.

2. Data Integration Methods

   Multiple Data Type Integration (Streams and Rivers). DEQ uses the multiple data type integration approach when there are two or more data types used in the assessment. To use this approach, biological and physical habitat data must be BURP-compatible and meet Tier I criteria. Physicochemical data must also meet Tier I criteria and the DEQ criteria exceedance policy. Other available data that is non-BURP compatible may be used to support or modify the preliminary use support determination derived from the weight of evidence.

   Overwhelming Score (Streams Only). DEQ applies the overwhelming score approach to determine support status (see table below) when using a single set of data. Only numerical criteria exceedances, SMI results, or SFI results are considered in this approach. To use this approach, biological data must be BURP-compatible and meet Tier I criteria. Physicochemical data must also meet Tier I criteria and the DEQ criteria exceedance policy.

3. Small Streams vs. Rivers

   The WBAG water body size criteria distinguish between two classes of flowing water: streams and rivers. This distinction is important since DEQ uses different bioassessment indexes, and different data integration methods to assess the aquatic life support use of these two classes. Because the two classes were developed differently, DEQ also had different experts peer review various indexes for each.

4. Salmonid Spawning

   Salmonid spawning generally requires habitat that contains well-oxygenated gravel substrate and cold water for egg incubation. DEQ has strengthened ALUS determination for salmonid spawning through the development of multimetric fish indexes (SFI, RFI). The Idaho water quality standards address these requirements through numeric criteria specific to salmonid spawning. Intergravel dissolved oxygen, water temperature, and ammonia salmonid spawning criteria are different from cold water biota criteria. Consequently, DEQ considers numeric criteria for salmonid spawning separately from cold water biota. Waters for which salmonid spawning is a designated or existing use have colder

temperature criteria, intergravel dissolved oxygen criteria, and a water column dissolved oxygen saturation requirement. However, these additional criteria must only be met during the spawning/incubation period for the affected species.

14. What data are used when DEQ has multiple monitoring sites on a stream?

In some cases, there may be more than one monitoring site located within a stratified water body. To interpret the aquatic life use support of three or more sites, DEQ averages the results of the multimetric index scores. In cases where there are only two sites, DEQ uses the lower index score to interpret aquatic life use support. In evaluating the support status of the other beneficial uses, such as contact recreation, DEQ uses the lowest support status determination. DEQ still applies other data quality policies such as preferring to use data that is five years old or newer.

For additional information on this topic, see the WBAG II Addendum – Interpretation of Multiple Index Results from the Same Water Body.

15. How will the WBAG II affect the 303(d) list?

WBAG II could either increase or decrease the number of water bodies listed on the 303(d) list. TMDLs will be created for water bodies on the 303(d) list and appropriate controls will be instituted to improve water quality and permit the water bodies on the 303(d) list to meet their designated uses. Nevertheless, results from the WBAG II are not yet known and therefore, there is a level of uncertainty as to how the 303(d) list will be affected.

Appendix D. Workshop Attendees

Table D-1. Moscow Workshop Attendees – April 24, 2001

Last Name	First Name	Organization
Adams	Bijay	DEQ
Agidius	Paul	Chair, Board of Environmental Quality
Bailey	Dee	Coeur d'Alene Tribe Fisheries
Brandt	Darren	DEQ
Cundy	Terry	Potlatch
Deacon-Williams	Cindy	Representing ICL
Empsall	Glenda	LP
Fields	Scott	Coeur d'Alene Tribe Water Resource
Harvey	Geoff	DEQ
Liter	Mark	IDFG
McLaud	Larry	ICL
Mihelich	Mike	Kootenai Environmental Alliance
Myler	Cary	Soil Conservation Districts (IASCD) in Moscow
Rothrock	Glen	DEQ
Solomon	Mark	ICL
Tulloch	Ed	DEQ
Urban	David	Palouse-Clearwater Environmental Institute

Table D-2. Boise Workshop Attendees – May 2, 2001

Last Name	First Name	Organization
Ashby	Gary	Cascade Earth Sciences
Beck	Holly	Maxim Technologies
Borden	Carter	Kleinfelder
Bridges	Marti	IRU
Buchannan	Kathy	Performance Management Alliance
Burke	Susan	DEQ-State Office
Burnell	Barry	DEQ
Charoglu	Emily	EnviroIssues
Clark	William	DEQ
Cowley	Ervin	Bureau of Land Management
Dailey	Gary	Boise - DEQ
Danehy	Bob	Boise-Cascade
Dombrowski	Tonya	IDEQ-BRO
Edmondson	Mike	DEQ
Faraca	Barbara	Kootenai Tribe of Idaho
Freema	Leslie	DEQ-BRO
Gower	Kim	AgriBusiness HQ
Grafe	Cyndi	DEQ
Grunder	Scott	IDFG, State Office
Gudgell	Dallas	Idaho Conservation League
Hancock	Valdon	USDA Forest Service
Harm	Melinda	Land and Water Fund
Hasbrouck	Elt	Southwest BAG
Hiller	Deb	EnviroIssues

Table D-2. Boise Workshop Attendees – May 2, 2001, continued

Horsburgh	Bryan	DEQ-Boise RO
Ingham	Michael	DEQ-Boise Region
Knight	Lloyd	Idaho Cattle Association
Lawlis	Jim	Performance Management Alliance
MacCoy	Dorene	USGS WRD
MacMillan	Randy	Clear Springs Foods Board of Environmental Quality (former BAG chair)
MacMillan	Randy	Clear Springs Foods, Idaho Board Env. PA.
Mallard	Barbara	DEQ, State Office
McIntyre	Mike	DEQ
Mebane	Chris	DEQ
Pence	Tom	BAG member/represents Ag.
Pence	Tom	Southwest Basin Advisory Group
Perry	Patty	Kootenai Tribe of Idaho
Petersen	Angie	DEQ-Boise Regional Office
Sharp	Darcy	IDEQ Technical Service Program, Life Sciences
Shepard	Craig	DEQ-BRO
Shumar	Mark	IDEQ Tech Services
Smout	Jennifer	U.S. Bureau of Reclamation
Steed	Robert	Boise RO-DEQ
Tominaga	Lynn or Brenda	Idaho Water Policy Group Idaho Ground Water Idaho
Wells	John	CES
Wolleson	Ward	AgriBusiness HQ
Zaroban	Donald	IDEQ-State Technical Services Office

Table D-3. Pocatello Workshop Attendees – May 8, 2001

Last Name	First Name	Organization
Atkins	John	Senator Crapo
Austin	Miriam	Western Watersheds Project (formerly IWP)
Buhidar	Balthasar	DEQ
Doughty	Bert	Thompson Creek Mining Co.
Edmondson	Mike	IDEQ-BOI-SO
Essig	Don	IDEQ-State Office
Etcheverry	Mike	IDEQ-TFRO
Harris	Scott	Environmental/Safety Manager Ash Grove Cement Company
Heffner	Ken	USDAFS
Herron	Thomas	IDEQ-IFRO
Hill	Sheryl	Senior Water Quality Analyst Idaho Department of Environmental Quality
Kemner	Don	Idaho Dept. Fish and Game
Lay	Clyde	IDEQ-TWF
Matzen	Tom	North Wind Environmental
Mende	Jim	Idaho Fish and Game, Pocatello
Philbin	Michael J.	Caribou-Targhee National Forests
Rowe	Mike	DEQ-Pocatello
Saffle	Troy	DEQ-IDF
Spinner	George	CES
Thomas	Craig	Bear River BAG
Tilman	Eric	Thompson Creek Mining Co.
Van Every	Lynn	DEQ-Pocatello Region
Woodie	Jen	Greater Yellowstone Coalition

Appendix E. Summary of Key Issues and Recommendations Resulting from DEQ WBAG II Workshop Series

The table below, prepared by EnviroIssues, synthesizes the key issues and recommendations resulting from the WBAG II workshop series. It captures subjects that stakeholders brought up and resulting discussions, but does not cover clarifying questions that were asked during or after presentations. The table also depicts which issues and recommendations were brought up at specific workshops (indicated by "M" for Moscow, "B" for Boise, and "P" for Pocatello) and identifies when issues were raised multiple times. If the issue was covered in written comments, then the appropriate response reference is cited. The remaining issues have specific responses provided in the table below.

Table E-1. Workshop key issues, recommendations, and DEQ responses

TOPIC	ISSUES	RECOMMENDATIONS	DEQ RESPONSES
Stream Habitat Index (SHI)	Lack of emphasis on SHI for determining beneficial use support (M, B)	Strengthen SHI as an index — treat habitat as primary indicator of degradation and use the fish and macroinvertebrate indexes (SFI, SMI) to ground truth results (M, B)	See response 7.11 (Habitat, SHI scoring).
	Consideration of physical characteristics (such as geology) as a metric in SHI/RHI (M, P)	Consider including geological classification in the future (M, P)	See response 11.57 (Habitat, SHI development).
Stream Macroinvertebrate Index (SMI) in Northern Rockies Ecosystem	DEQ has allowed SMI to stand alone yet it is only right 70% of the time (DEQ's response was that SMI must have at least a median score to pass) (M)	Place less emphasis on SMI in Northern Rockies Ecosystem (M)	See response 7.345 (Macroinvertebrates, SMI development), 16.157, 10.44 and 14.105 (Index integration, scoring).

TOPIC	ISSUES	RECOMMENDATIONS	DEQ RESPONSES
Reference Conditions	Reference conditions are based on minimal disturbance (M)	For forested streams, base reference conditions on more pristine environments (not environments with minimal disturbances) (M)	See responses 17.174 (Appendix G, Reference, scoring support determination), 7.12, 10.34, and 12.77 (Reference, site selection).
	Determination of how much difference from reference condition is acceptable (M)	Re-examine "lumping" associated with reference conditions so that classification can be better understood - use multivariate approach in classification (M, B) When at the subbasin assessment level, there is a need to greater refine reference conditions for local comparison (P)	See response 11.57 (Habitat, SHI development).
	Validity of reference streams selected in that DEQ discarded particular streams from set (M)	Justify action or revise stream set (M)	See responses 17.174 (Appendix G, Reference, scoring support determination), 7.12, 10.34, and 12.77 (Reference, site selection).
	Validity of comparing reference conditions to managed rivers that have been dammed or otherwise altered – this makes it difficult to attain beneficial uses (B)	Somehow consider management activities, potentially by developing guidance to limit reference, creating site specific standards, or developing an attainability analysis (B)	See response 8.19 (Reference, river methods).
	Reference streams and rivers should not be able to be listed on 303(d) (P)	Evaluate physical parameters/ geomorphology to eliminate the poor reference conditions – for example, screen for sedimentation so that sediment levels parallel reference conditions (P)	See response 7.12 (Reference, site selection) and 17.174 (Appendix G, Reference, scoring support determination).
	Confusion about stratification and how it happens (M)	Consider clarifying this issue in the final guidance (M) Finer resolution is needed in stratification (riffles in gravel vs. boulders) (P)	See response 11.57 (Habitat, SHI development).

TOPIC	ISSUES	RECOMMENDATIONS	DEQ RESPONSES
Data Representative-ness (10-mile policy)	Pragmatism of WBAG implementation given number of stream and river miles in Idaho (M, B)	Reconsider whether proposed assessment process is realistic (M, B) Consider a random sampling approach, as this might be just as representative (B)	See responses to 16.167 (Data representation, stratification) and 14.108 (Data representation, general).
	Questionable whether 10-mile policy will be accepted (associated legal implications with landowners, especially since delisting becomes more difficult with 10-mile rule) (M, B)	Use habitat information to support/justify the 10-mile approach (M)	See response 14.108 (Data representation, general).
	Sampling protocols to support 10-mile policy (M)	Revise BURP monitoring policies to support 10-mile policy (M)	See response 14.108 (Data representation, general).
Native vs. Non-Native Fish Species	Potentially different treatment between natives and non-natives (bull trout/ brook trout example) (M, B)	Avoid making value judgment on worth of native vs. non-native fish species (M, B, P) Do this by developing cold water biota standards instead of prescribing the type of fish (B)	See response 7.15 (Fish, native species).
		Consider non-native fish species as pollutants in order to enable natives to recover (M, P)	See response 7.15 (Fish, native species).
	Regarding salmonid spawning, there is confusion about which species pertain to this category (B, P)	Clarify which species of salmonids apply to the aquatic life use support determination (anadromous/non-anadromous – native/non-native) (B, P)	See response 16.144 (Uses, methods – fish).

TOPIC	ISSUES	RECOMMENDATIONS	DEQ RESPONSES
Outside Data Policy	Difficult to determine what constitutes Tier I, II, III data - there is little understanding of what qualifies in terms of "rigor" and robustness" (M, B)	Develop and distribute further guidance for those who might provide Tier I, II, and III data in order to improve consistency and efficiency; ensure that all agencies that monitor create a comparable data set; clarify that data considered must meet a protocol (M, B)	The WBAG II has been revised to provide further guidance on Tier I, II and III data in Section 4. See responses 15.128, 16.137, and 25.267 (Data quality, tiers).
		For habitat data, only accept Tier I data from government entities (B)	Habitat data will be treated similarly to other data and will be tiered according to Section 4 (WBAG II).
		Specify Tier I and II data for existing uses (M)	
Water Bodies Not Assessed	Unclear how "water bodies not assessed" will be addressed - concern about how many water bodies fall into this category (M)	No recommendation (M)	See response 21.235 (Overall, not assessed).
	If water bodies are not assessed, one assumes they will not be on the 303(d) list - landowner argues there is an incentive to deny DEQ access to property for monitoring purposes (B)	No recommendation from stakeholders; however, DEQ might want to clarify that "water bodies not assessed" can actually be on the 303(d) list. (B)	DEQ continues to work with private property owners to collect representative data of Idaho water bodies. See response 21.235 (Overall, not assessed).
Beneficial Uses	Unclear about historical beneficial uses and attempts to restore to historical conditions (1975 discussion) – also, what type of historical data would be needed to support beneficial uses (M, B)	No recommendation (M, B) In section 5.4.2.2 Existing Uses, change "…1975, if the use no longer…" to "…1975, even if the use no longer…" (P)	Section 3 of the WBAG II outlines the methods to identify beneficial uses for assessment purposes.

TOPIC	ISSUES	RECOMMENDATIONS	DEQ RESPONSES
	Beneficial uses are associated with wildlife habitat/aesthetics but not for riparian/aquatic habitat (P)	Address this inconsistency by reevaluating habitat in context of wildlife, riparian, and aquatic needs (P)	See response 11.66 (Aesthetics, support determination).
Human vs. Ecological Impairment	What constitutes human or ecological impairment in relation to land management decisions (discussion of human management of fire) (M)	No recommendation (M)	This question centered on how WBAG could account for wildfire impacts to water quality. Specifically, how did DEQ separate out natural ecological processes versus human influenced wildfire effects? This is a complex question well beyond the intent of WBAG. However, wildfire is a natural ecological process and as such can be expected to occur over time across the landscape (Agee 1993, Hann et al. 1997, Lehmkuhl et al. 1994). Wildfire disturbance plays a vital role in aquatic ecosystems (Resh et al. 1988) even though it disrupts, alters, or changes resources and/or the physical environment of streams (Minshall et al. 1985). When wildfire occurs it should neither be viewed nor painted as a water quality problem resulting in 303(d) listing. Granted, conditions have changed, but they have changed due to natural processes that aquatic organisms and systems have adapted to over thousands of years. This said, it is also well documented that humans can influence the size, intensity, and severity of wildfire (Agee 1993), which in turn impacts water quality. How to separate and evaluate natural wildfire that may or may not be influenced by human activities is well outside the intent and capacity of this guidance.
Causes/Sources of Impairment	WBAG II does not explicitly address identifying causes and sources of impairment so it seems inappropriate in the guidance (B)	Eliminate the following language in the executive summary: "Determine, if possible, the causes and sources of impaired designated uses" (B) Address pollutant identification in future WBAG editions (P)	DEQ has removed this language from the executive summary and Section 1. We will investigate how to address pollutant identification in future WBAG editions.

TOPIC	ISSUES	RECOMMENDATIONS	DEQ RESPONSES
Nuisance Conditions	What constitutes nuisance conditions (B)	Specify what constitutes nuisance conditions (B)	WQS § 03.66 define nuisance as, "Anything which is injurious to the public health or an obstruction to the free use, in the customary manner, of any waters of the state." For purposes of WBAG, any condition or situation that prevents an individual from achieving a beneficial use could be considered a nuisance. For example, an algae bloom that prevents boating or swimming would be a recreational nuisance, as would sediment that clogs intake systems to drinking, industrial, or agricultural water quality systems.
Streams and Rivers Across State Lines	A parallel assessment process across state lines is needed (P)	Ensure collaborative efforts with joint TMDLs and with water body assessment guidance processes (P)	The Clean Water Act grants authority for each state to set its own water quality standards, including identifying beneficial uses, setting numeric and narrative criteria, and establishing antidegradation procedures (§ 303 and 304). Because each state establishes its own standards, they also have the authority to develop appropriate monitoring and assessment processes to evaluate those standards (§ 304(f), 305(b), 314(b) and 319(b) and (d)). It is not surprising that given the above, states have developed different monitoring and assessment strategies based on available resources and physical water quality conditions. It has been a goal of Washington, Oregon, Alaska, and Idaho, the four states that make up EPA Region 10, to standardize methodologies to the extent possible. Working with EPA through the yearly Northwest Bioassessment Workshops (NWBW), these states have moved closer to this goal, especially regarding macroinvertebrate mesh size, laboratory taxonomy procedures, number of insects identified, electrofishing techniques, and habitat assessment. EPA has recognized the dilemma of using different monitoring and assessment methods when reviewing the 50 states' water quality results. Because of this, EPA has initiated a national effort to standardize methods as much a possible through the Western Environmental Mapping and Assessment Project (EMAP) and Consolidated Assessment Listing

TOPIC	ISSUES	RECOMMENDATIONS	DEQ RESPONSES
			Methodology (CALM). WBAG II incorporates these standardized methods. In evaluating monitoring data, Region 10 states use different assessment methods such as multimetric and multivariate approaches. While these methods are not directly comparable, they are based on sound ecological principals, well-tested and used nationwide. Because each state collects and analyzes data slightly differently, it is inappropriate to run Oregon data through Idaho's assessment process and visa versa. Instead each state should rely on the conclusion reached by that state for purposes of water quality decisions.
Amphibians and Periphytes	Lack of amphibian/ periphyton consideration, even though they are addressed to an extent in the SFI (B)	Consider developing a new index to address this or strengthen consideration in existing indexes (B)	DEQ does have a RDI that analyzes periphyton data (Grafe 2002). DEQ also collects periphyton samples on streams statewide as part of the BURP. Given priorities and available resources, DEQ plans to develop a stream periphyton index. This long-range goal requires a large sample from a wide variety of stream types to facilitate this analysis. In regards to amphibians, DEQ does note their presence while in the field, though vouchering is optional. Amphibians are an important ecological component to stream systems. DEQ does give extra credit for amphibian presence in the SFI (Forest bioregion). However, the patchiness of their occurrence and their low numbers preclude their use in an index at this time.

Appendix F. WBAG II Commenter Index

Correspon-dence ID	Date Received	Name	Address	Organization
1	2/5/01	Jim Miller	1043 Blue Heron Ln. Moscow, ID 83843	Individual
2	3/5/01	W.E. Chetwood		Individual
3	There are no comments associated with this number*			
4	4/16/01	Robert Meisner	Lewiston, ID	Individual
5	4/24/01	Dwight Hunter	P.O. Box 802 Lewiston, ID 83501	Individual
6	5/14/91	Russell C. Biggam	P.O. Box 442339 Moscow, ID 83844-2339	University of Idaho, Dept. PSES
7	5/15/01	Mark Solomon	P.O. Box 8145 Moscow, ID 83843	Idaho Conservation League
8	5/30/01	Randy MacMillan	P.O. Box 712 Buhl, ID 83316	Clear Springs Foods, Inc.
9	5/31/01	Melinda K. Harm	P.O. Box 612 Boise, ID 83701	Land and Water Fund of the Rockies
10	6/1/01	Liz Sedler	P.O. Box 1203 Sandpoint, ID 83864	Alliance for the Wild Rockies
11	6/4/01	Miriam Austin	P.O. Box 1770 Hailey, ID 83333	Western Wateshed Project
12	6/1/01	Jane Gorsuch	350 N. 9th St., Suite 304E Boise, ID 83702	Intermountain Forest Association
13	6/4/01	Tracey Trent	600 S. Walnut Boise, ID 83707-0025	Idaho Department of Fish and Game
14	6/4/01	Robin Finch	P.O. Box 500 Boise, ID 83701	City of Boise
15	6/8/01	Lynn Tominaga	P.O. Box 2624 Boise, ID 83701	Idaho Water Policy Group
16	6/15/01	Samuel N. Penney	P.O. Box 305 Lapwai, ID 83540	Nez Perce Tribal Executive Committee
17	6/1/01	Paula vanHaagen	1200 Sixth Avenue Seattle, WA 98101	EPA, Standards and Planning Unit, Office of Water
18	There are no comments associated with this number*			
19	There are no comments associated with this number*			
20	5/24/01	James Karr	P.O. Box 355020 Seattle, WA 98195-5020	University of Washington
21	6/1/01	Scott Fields	P.O. Box 408 Plummer, ID 83851	Coeur d'Alene Tribe

Correspon-dence ID	Date Received	Name	Address	Organization
22	6/1/01	Bill Mulligan	P.O. Box 757 Kamiah, ID 83536	Three Rivers Timber, Inc.
23	5/29/01	Mike Mihelich	P.O. Box 1598 Coeur d'Alene, ID 83816-1598	Kootenai Environmental Alliance
24	6/1/01	Dallas Gudgell	P.O. Box 844 Boise, ID 83701	Idaho Conservation League
25	6/1/01	Cindy Deacon-Williams	4393 Pioneer Road Medford, OR 97501	Environmental Consultants (contracted by ICL)
26	There are no comments associated with this number*			
27	There are no comments associated with this number*			
28	There are no comments associated with this number*			
29	7/23/01	Chadwick Ecological Consultants, Inc.	5575 S. Sycamore St. Suite 101 Littleton, CO 80120	Chadwick Ecological Consultants, Inc. (contracted by Thompson Creek Mining Company)
30	7/10/01	James Karr	P.O. Box 355020 Seattle, WA 98195-5020	University of Washington
31	7/06/01	Jeroen Gerritsen and Michael T. Barbour	10045 Red Run Blvd. #110 Owings Mills, MD 21117	Tetra Tech
32	9/27/01	Paula vanHaagen	1200 Sixth Avenue Seattle, WA 98101	EPA, Standards and Planning Unit, Office of Water

*In three cases, DEQ had input correspondence into the database twice. The correspondence was later deleted and the unique correspondence number was voided.

Appendix G. EPA/DEQ Correspondence Concerning WBAG II

DEQ has coordinated extensively with EPA throughout the WBAG process. Although EPA does not have the authority to approve or disapprove DEQ's assessment methodology, DEQ wanted to ensure EPA's understanding and satisfaction with the WBAG before using it to develop the Idaho 303(d) list. With this in mind, DEQ asked EPA for an in-depth review of the draft WBAG II. Because of this request and EPA's unique role, DEQ has addressed EPA's comments separately in this Appendix.

EPA reviewed the WBAG II and provided DEQ with comprehensive comments from technical and policy perspectives. The EPA reviewers possessed a wide range of expertise including fish biology, ecology, monitoring, program policy and legal. The review included EPA Region 10 Idaho Operations office (Boise, Idaho): Leigh Woodruff. Also, from EPA Region 10 office (Seattle, Washington): Kerianne Gardner, Gretchen Hayslip, Lilian Herger, Curry Jones, Marcia Lagerloef, Theresa Pimentel and Steve Ralph. Lastly, from EPA Headquarters (Washington, D.C.): Susmita Dubey (Office of General Council); Susan Holdsworth, Mike Haire, Chris Faulkner, Christine Ruf (Office of Wetlands, Oceans and Watersheds); Sue Gilbertson, Ed Hanlon, Jennifer Wigal (Office of Science and Technology).

The comments from the above individuals are set forth in Table G-1. A number of comments were clarified and resolved in formal correspondence between DEQ and EPA, listed below and provided in this appendix:

- May 31, 2001: EPA's initial comments to DEQ's December 2000 Final Draft Water Body Assessment Guidance, Stream Ecological Assessment Framework and River Ecological Assessment Framework
- June 4, 2001: EPA's correction to the May 31, 2001 comment letter
- June 25, 2001: DEQ's letter to EPA requesting further clarification
- September 27, 2001: EPA's clarification letter to DEQ regarding their initial comments.

Table G-1. Response to EPA Comments by Comment Type and Subtype

Comment Type	Comment SubType	Correspon-dance ID	Comment Number	Specific Comment (verbatim)	Response
Aquatic life	pollutant identification	17	184	Secondary Policy Concerns...Chapter 5: Aquatic Life Support Determination: For impaired water bodies identified based on biological data, the process to identify the pollutants causing the impairment is unclear. EPA recommends DEQ include a subsection to explain what steps will be taken to identify the pollutants causing the impairments.	Pollutant identification guidelines will likely be incorporated in the DEQ 303(d) listing guidance (in preparation), particularly with EPA's recent issuance of integrated guidance (EPA 2001). DEQ is considering using the EPA stressor identification guidance (EPA 2000) and biological indicators to identify likely pollutants.
Contact recreation	support determination	17	185	Secondary Policy Concerns...Chapter 6: Contact Recreation and Chapter 7: Water Supply Use Support Determination. EPA discourages states from presuming unassessed waters or waters with limited data are attaining water quality standards and meeting beneficial uses. EPA suggests monitoring these waters, possibly with a probability-based design, to enable these low risk waters to be classified as full-support, not full-support, or unassessed. Also, see the next comment on Extrapolation following [comment 17.186 (Data representation methods)].	The WBAG process mainly determines the support status of streams targeted by the Idaho BURP program. As such, determining the need to sample a water body for *E. coli* becomes important. The current BURP protocol requires that an *E. coli* sample be taken if there is a suspected source of contamination in the drainage upstream from the BURP site. This process appears to work very well in determining the potential for contamination. In some regions, this has resulted in all BURP sites having *E. coli* samples taken. In other areas, select sites are sampled. In an effort to address EPA's concerns, we attempted to determine the effectiveness of the current BURP approach. We solicited information from the regional DEQ offices to determine if any streams had been sampled when the protocol indicated sampling was unnecessary. Close to 100 sites were sampled for *E. coli* where the BURP coordinators did not believe there was a contamination risk. The judgment of the BURP coordinators was exceptional. In all of the sites sampled where there was no identifiable source, the samples came back with very low *E.coli* numbers. This analysis has added to DEQ's confidence that DEQ can make an accurate determination of the support status of streams where there is little risk for *E.coli* contamination even when samples have not been taken.

Comment Type	Comment SubType	Correspon-dance ID	Comment Number	Specific Comment (verbatim)	Response
Criteria exceedance	10% policy	17	201	Section 4.2.1: The first sentence notes that DEQ may not determine a numeric criteria violation for DO, pH, turbidity or total dissolved gas until greater than 10% of the measurements are above the criteria. The second sentence notes that a minimum of two samples must be evaluated to determine whether an exceedance of the 90th percentile has occurred. Is this criteria intended to be an "and" or and "or" policy? Does there need to be 2 measurements and at least 10% violation? A simple language change may add clarity to this paragraph, one suggestion might be: Begin paragraph with the policy, then explain it. For example: "A minimum of two measurements in any of these parameters must be evaluated and greater than 10% exceedance must be observed before a determination of exceedance can be made (WADOE 1997, EPA 1997a)."	The criterion is intended to be an "and" policy, as the commenter indicates in the closing quote. The language has been clarified in the final guidance.
Criteria exceedance	10% policy	17	336	Section 4.2.5, third paragraph: While the discussion notes that the 10 percent measurement frequency policy stated in this guidance 'concurs' with similar Washington and Illinois State guidance/policy and with EPA policy, we recommend that this section be revised to address the specifics of Idaho's water quality standards.	It is not clear to what specifics in Idaho's water quality standard the commenter refers. Section 4.2.5 (now Section 5.2) was revised to reduce confusion. See response to 16.139 (Criteria exceedance, 10% policy).

Comment Type	Comment SubType	Correspon-dance ID	Comment Number	Specific Comment (verbatim)	Response
Criteria exceedance	general	17	177	Primary Concern...Criteria are to be considered independent of effect... In section 4: Criterion Evaluation and Exceedance Policy, paragraph 2, last sentence (page 4-10), DEQ describes flexibility to consider exceedances in context to determine a negative effect and violation of WQS… In other words, the observation of negative effect on beneficial use may indicate a water quality criteria violation, but the absence of observed negative effect in the presence of criteria exceedance does not nullify the violation. EPA is concerned that language in this paragraph might be misapplied and result in not listing waters that are impaired. EPA recommends clarifying the language in this paragraph. One suggested wording: "The intent of this section is to publicly establish the guidelines for determining if a particular criteria exceedance has resulted in a water quality impairment."	We have resolved this by clarifying that assessor discretion exists only when the frequency of exceedance is less than 10%. The discretion is such that a stream may be fully supporting beneficial uses if there are no measurable adverse effects with up to 10% exceedances. However, with more than 10% exceedances, the determination is not fully supporting.
Criteria exceedance	general	17	182	Secondary Policy Concerns...Section 4, page 4-1, 3rd paragraph, 3rd sentence states "…some criteria are exceeded temporarily and do not result in a permanent, negative effect on the beneficial uses." EPA is concerned that this wording here may change an underlying level of protection established in Idaho's WQS which refers to temporary effects. EPA recommends DEQ more thoroughly explain their interpretation of "permanent negative effects" so that it is consistent with the associated sections of Idaho's WQS.	Our intent is to reasonably apply numeric criteria for conventional pollutants that exhibit great natural variability, not to change any underlying level of protection provided by Idaho's water quality standards. We have removed the word "permanent."

Comment Type	Comment SubType	Correspon-dance ID	Comment Number	Specific Comment (verbatim)	Response
Criteria exceedance	general	17	199	It would be helpful to put the Policy Rationale (4.2.5) immediately following the policy introductory paragraph on page 4-1. You might preface the rationale with "As you read the following criteria exceedance policies, please take the following into consideration..." Then continue with the explanation on variability et. al. Paragraph 3, page 4-1: Use bullets to separate out the possible reasons for an exceedance not resulting in an impaired water body identification.	Thank you. This suggested reorganization was quite helpful.
Criteria exceedance	general	32	353	Criteria are to be considered independent of effect. As indicated by DEQ's June 26, 2001 letter, DEQ misunderstood the focus of EPA's com-ment to be on whether the 10% exceedence policy is appropriate in determining when a criteria exceedence equals a violation. The intended focus of EPA's comment was on the last line of para-graph 2 on page 4-1, which states, "...if the exceedence has had a negative effect, and thus is a violation of water quality standards." EPA was concerned that the wording might mislead people into thinking that a 10% criteria exceedence might be ignored if there was not an observed nega-tive effect. This topic was resolved when DEQ clarified that if criteria are exceeded by 10% of the samples, regardless of observed negative effect, they would list the waterbody. EPA felt satisfied with DEQ's clarification and DEQ agreed to reconsider the wording of the sentence.	See response to 17.177 (Criteria exceedance, general)

Comment Type	Comment SubType	Correspon-dance ID	Comment Number	Specific Comment (verbatim)	Response
Criteria exceedance	narrative criteria	17	183	Secondary Policy Concerns...Section 4.1, third paragraph: The discussion notes that narrative criteria currently apply for nutrients and sediment. However, DEQ provides very little description as to how those narrative criteria are to be interpreted. EPA recommends including more detail, especially for nutrient-related and sediment provisions, such as a list of data DEQ is willing to consider and a description on how to interpret these data, at least for nutrient-related and sediment provisions.	Narrative criteria are difficult to evaluate, which is why DEQ uses bioassessment as a tool. DEQ considers other information on a case-by-case basis. Section 4 provides basic guidance on factors DEQ considers in the use of data; although a detailed description of the data that could be used in interpretation of nutrient and sediment narrative criteria is outside the scope of what is covered in the WBAG II.
Criteria exceedance	natural condition	17	179	Primary Concern...Natural Condition: Mentioned in section 4, page 4-1, last paragraph and again in section 4.2.2, page 4-6. Please cite Idaho's water quality standards provision for natural condition in this assessment guidance. Additionally, since DEQ is interested in using this document as their 303(d) list methodology, it would be a good idea to clarify how this natural condition clause will be implemented. Important information to include in such a section might be: section in Water Quality Standards where the provision is located, method for establishing natural background conditions, an explanation of the administrative process to adopt site specific criteria for natural background and the process that must occur prior to these site-specific criteria becoming effective. As this process may take time, DEQ may also want to provide guidance for how assessors should make decisions prior to adoption and approval of these site specific criteria.	Natural background conditions are cited in the WBAG II document (see Section 5.2.3). DEQ is currently modifying the language in the standards to make it clear that site-specific criteria are not needed to implement natural background conditions. DEQ expects to develop further guidance on determination of natural conditions. It is likely this guidance will be pollutant specific, and may be developed pollutant by pollutant over time.
Criteria exceedance	natural condition	17	200	Paragraph 3, page 4-1: For readers unfamiliar with Idaho's Water Quality Standards, it would be helpful to refer to the natural condition clause in Idaho's Water Quality Standards in this list methodology.	See response to 17.179 (Criteria exceedance, natural condition).

Comment Type	Comment SubType	Correspon-dance ID	Comment Number	Specific Comment (verbatim)	Response
Data quality	BURP-compatible	17	171	Primary Concern...Section 3.3 How Outside Data is Used in Aquatic Life Determinations, page 3-6:...However, requiring outside data to be analyzed and conclusions reached will unduly restrict the submission of data and possibly even its collection by outside parties and thus constrict available data for decision making. This would be counter to EPA regulation and guidance requiring states to evaluate all existing and readily available water quality-related data and information. EPA recommends DEQ add a sentence such as, "DEQ will primarily use BURP data and submitted data that has been analyzed and conclusions drawn, but other raw data meeting comparable QA/QC requirements can be used as well" and create additional comparability tables, like 3-1, for chemical and physical data needs.	DEQ revised Section 4.3. and Table 4-1 (formerly Section 3.3. and Table 3-1, respectively) to reduce confusion on DEQ policies concerning outside data. DEQ evaluates all existing and readily available data to determine how this data is used in water quality decisions. DEQ analyzes raw data associated with numeric criteria. It is unlikely during the 303(d) assessment process that DEQ will attempt to reach conclusions on other types of data that are unanalyzed by the submitter. This policy is based on two important considerations. First, DEQ is concerned about the error rate associated with analyzing someone else's data for listing or delisting decisions. Second, DEQ does not believe it has the time and resources necessary to adequately analyze outside data during the 303(d) assessment process. DEQ subbasin assessment process provides the time and resources for an assessor to better understand the conditions and situations in a particular watershed, such that outside data could be more fully integrated into a comprehensive water quality assessment. For other water quality decisions, DEQ evaluates the decision to use unanalyzed data based on the available time and resources required in analyzing that data (see Section 4.3.).
Data quality	general	17	212	To enhance the usefulness of this guidance as a 303(d) list methodology, it is important for the public to know what specific data and information DEQ requires to demonstrate a use impairment (e.g., are photos adequate to demonstrate an erosion problem, or does DEQ require calculated lateral recession rates?). EPA recommends DEQ clearly describe the type and amount of information DEQ needs to make a use support determination.	We appreciate this suggestion. DEQ has revised Section 4 to more clearly describe the type and amount of information needed to make a use impairment determination.

Comment Type	Comment SubType	Correspon-dance ID	Comment Number	Specific Comment (verbatim)	Response
Data quality	predictive modeling	17	180	Secondary Policy Concerns...Predictive modeling is considered Tier 1 data which DEQ intends to use in making 303(d) list decisions. Though predictive modeling is one of the data pieces included under 40 CFR 130.7 (b)5(ii), EPA is concerned that DEQ's heavy reliance on modeling without having detailed guidance in place to explain how Idaho will use predictive modeling may result in misuse of modeling results and misidentification of impaired waters. EPA recommends DEQ develop and publish clearly articulated guidance on DEQ's protocol for the use of predictive modeling.	DEQ disagrees that there is a heavy reliance on modeling results for the 303(d) assessment process. The majority of the data used in the assessment process are BURP data. Also, please see response to 16.136 (Data quality, predictive modeling).
Data quality	public notice	17	170	Primary Concern...While it is appropriate to send letters to specific organizations that are likely to have relevant data, EPA recommends Idaho also issue a public notice to provide other parties reasonable opportunity to contribute data.	DEQ concurs and will issue a public notice during the 303(d) data request.
Data quality	solicitation	32	354	Be inclusive with public comments. EPA clarified that this was a general reminder to be as inclusive as possible when seeking public comments.	DEQ was inclusive when considering public comments on the draft guidance. We conducted stakeholder interviews prior to workshops; conducted educational workshops; and extended the public comment process to 120 days. In addition, DEQ made exceptions to the public comment deadline and responded to comments received after the close of the public comment period. Many constructive changes to the guidance resulted from these collective efforts.
Data quality	Terminology	17	197	3.2.2: The text notes that "data must be relevant as well as scientifically rigorous to be incorporated into the assessment process" and that DEQ "considers data representation information" when assessing data relevance. EPA recommends DEQ define the terms 'relevant' and 'data representation information'. For example, regarding the data relevance statement, the text might note that "data must be relevant to designated uses as well as...."	DEQ appreciates this suggestion. Section 4.2. (formerly Section 3.2.2.) has been revised to address this comment.

Comment Type	Comment SubType	Correspon-dance ID	Comment Number	Specific Comment (verbatim)	Response
Data quality	tiers	17	172	Primary Concern...EPA encourages DEQ to consider other ways for Tier II data to be used. One possibility is to use Tier II data as a "flag" to indicate where additional sampling is needed. Additionally, EPA hopes the state will encourage organizations currently collecting tier II data to progress toward collecting tier I.	DEQ uses Tier II data in a number of water quality decisions such as 305(b) reports and subbasin assessments. See responses to 16.137 (Data quality, tiers), 25.266 (Data quality, BURP-compatible), and 17.171 (Data quality, BURP-compatible) for further clarification.
Data quality	tiers	17	198	3.2.3.1 (page 3-5). Suggest clarifying in the text and/or table how field data such as pH, DO, temp, turbidity would be classified. Could these data types be Tier 1 if there is an established QA/QC plan?	DEQ has revised Table 4-2 to address this concern. For such data to be classified as Tier I, standard methods must be followed. Also, the data must address scientific rigor and data relevance requirements (see Section 4.2.1. and 4.2.2.).
Data quality	tiers	32	349	Outside data Discussion: EPA had expressed concern regarding restriction of outside data. This comment referred to the second edition of Idaho's Waterbody Assessment Guidance, section 3.3, page 3-6, second to last sentence, which indicates that data that has not been analyzed or had clear conclusions drawn from it prior to submission would not be used alone to make decisions. The last sentence in the same section indicates that data without analysis and conclusions drawn would not be used at all. EPA pointed out the confusion generated by the two sentences. Additionally, EPA pointed out that Figure 3-2, on page 3-7 might also benefit from the clarification as to whether DEQ will use data submitted without analysis and conclusions drawn alone or in conjunction with other data. Potential Action: EPA's June 4, 2001 comment letter suggested language that might meet both agencies needs. DEQ indicated they would internally discuss and consider amending the wording in section 3.3, page 3-6.	See response to 17.171 (Data quality, BURP-compatible).

Comment Type	Comment SubType	Correspon-dance ID	Comment Number	Specific Comment (verbatim)	Response
Data quality	tiers	32	355	Consider other Tier II uses. EPA clarified that the comment about Tier II data, made in conjunction with their comment on outside data was a helpful hint, included in this section because it is related.	DEQ clarified the guidance regarding the uses of Tier II data. Tier II data may also be used to highlight potential problems in a waterbody or to plan for additional monitoring activities. See response to 17.172 (Data quality, tiers).
Data representa-tion	boundaries	17	213	Describe Process for Changing the Boundary of a Listed Water: It is not immediately clear how a water body boundary might be changed in the context of the WAG. If DEQ has a standard procedure and has acceptable rationales established for changing water body boundaries, EPA recommends inserting a sub-section to describe these procedures.	Changing the boundaries of a water body is dependent on how the data are extrapolated for assessment purposes and how the assessment results will be used. The WBAG II does not address how to establish boundaries for listed waters. DEQ intends to provide this information in separate guidance for 303(d) / 305(b) reporting (in preparation).
Data representa-tion	methods	17	186	Secondary Policy Concerns...To improve the effectiveness of this document as a 303(d) list methodology, EPA recommends DEQ include a subsection explaining their methods and rationale for selecting stream sampling locations, explain what the selected segments represent, and describe the extent to which DEQ extrapolates data to make water quality decisions for the greater stream network. Additionally, EPA recommends DEQ explain its policy on correlating upstream and downstream sites when making a water body impairment decision. A specific example of where this issue arises in the document can be found in Idaho Small Stream Assessment Framework Chapter 2, page 2-2. There the document discusses how streams are stratified based on size, drainage, order and discharge area, but does not explain what these segments represent.	More detail regarding the BURP monitoring design and sampling protocols may be found in the DEQ BURP annual work plans and field method manual (in preparation). DEQ has added policy regarding multiple sites and impairment decisions (see Sections 2 and 6). Chapter 2, page 2-2 of the Idaho Small Stream Assessment Framework describes the method to determine the water body size class. This determination is necessary to select the appropriate indexes for the ALUS determination. Discussion of policies concerning data or site representation may be found in WBAG II Section 2. See also Idaho 2002 303(d) and 305(b) Reporting Guidance (in preparation).

Comment Type	Comment SubType	Correspon-dance ID	Comment Number	Specific Comment (verbatim)	Response
Data representa-tion	WBID canals	17	195	2.2.1. Water body Identification System (page 2-2). In the last sentence of the first paragraph, we believe canals which are tributary to a water of the U.S. should be identified and coded in the system. Please clarify how these waters are handled.	The Water Body Identification (WBID) system is intended as a comprehensive index of surface waters of the state. Unless otherwise designated, manmade waters are not intended to be included in the WBID system. Canals that use natural water courses are included in the WBID system.
Fish	SFI RFI development	17	175	Primary Concern...EPA encourages DEQ continue development of the Macroinvertebrate and Fish indices to increase the predictive ability for the Northern Mountain Bioregion.... In the interim, EPA suggests selecting a higher percentile/threshold or reexamining the classification scheme for the Northern Mountain Bioregion in order to ensure prediction levels are comparable to other areas of the state.	DEQ expects to continue to refine ALUS indexes given available resources and priorities. DEQ has reanalyzed the SMI for the Northern Mountains (see response to 7.345 (Macroinvertebrates, SMI development)). The rest of the comment may be partly mistaken based on EPA's clarification letter (September 27, 2001, Editorial Clarification, Bullet 2). DEQ believes the SFI in the Northern Mountains showed similar performance to the other bioregions.
Fish	tissue, consumption	17	187	Secondary Policy Concerns...DEQ's policy on the use of fish tissue data and fish consumption advisories in development of their 303(d) list is not apparent. To increase the effectiveness of the WAG as a 303(d) list methodology, EPA recommends adding a section or subsection describing their policies on use of fish tissue data and fish consumption advisories. DEQ may refer to the memo EPA issued on October 24, 2000, for guidance on addressing the use of fish consumption advisories in 305(b) and 303(d) listing.	Fish tissue data or supported fish consumption advisories may be considered in the assessment process through the use of outside data (see Section 4.3.).
General	editorial	17	188	Add ALUS to the acronym lists in WAG and Idaho River Ecological Assessment Framework (it is present in the Small Streams Ecological Assessment Framework).	Revised accordingly.
General	editorial	17	189	For readers unfamiliar with this term, please provide a definition for "a priori" in the policy glossary.	Revised accordingly.
General	editorial	17	196	Table 3-1: Grammatical correction: change "consider" in second column heading to "considered"	Revised accordingly.

Comment Type	Comment SubType	Correspon-dance ID	Comment Number	Specific Comment (verbatim)	Response
Habitat	SHI development	17	204	In chapter 5 of the Small Streams Framework and in the Water body Assessment Guidance, a description of the nature and resolution of the habitat data should be made.	See response to 10.35 (Habitat, SHI development).
Habitat	SHI development	17	205	Conclusions, paragraph 2 (page 5-106): Possible typographical error. The authors state that " .... human disturbance may be the ultimate cause, but the habitat measure is the mechanism that actually degrades the biological assemblage." The following language may lend clarification: "...habitat measure is the mechanism that actually measures the degradation of the biological assemblage."	DEQ revised this paragraph to reduce confusion. However, we do not believe the suggested rewording is correct. DEQ believes habitat measures may be an indicator of degradation of the biological assemblage, but not actually measure in-stream conditions or directly measure impairment.
Habitat	SHI methods	17	216	Future consideration...EPA commends DEQ for their laudable effort to capture characteristics of instream habitat and to determine how those characteristics respond to land use impacts. EPA encourages DEQ to continue their efforts to decipher appropriate instream indicators that correlate with watershed variables. In addition, EPA encourages DEQ to continue to explore field methods that capture habitat data in a more quantitative fashion.	Kaufman (2000), a researcher at EPA Office of Research and Development, found that ocular estimates can often be just as, if not more precise than quantitative measures. This often depends on what is actually estimated and how many measurements are made. Fore and Bollman (2000) initially set out to develop an SHI that was comprised of quantitative measures only. However, they found that some qualitative measures were more significantly correlated to indicators of impairment than some quantitative measures. Consequently, some qualitative measures were included in the SHI. In the future, DEQ may do pilot tests to determine if other quantitative measures are more significant and still meet time and resource requirements of the monitoring program.

Comment Type	Comment SubType	Correspon-dance ID	Comment Number	Specific Comment (verbatim)	Response
Habitat	SHI scoring	17	176	Primary Concern...Additionally, EPA has concerns over how stream habitat index (SHI) score is integrated into a final use determination and how the SHI fits into the overall decision process. While the habitat condition rating is averaged with the other indexes, it appears to be weighted differently since the scores are only 1 and 3.In other words, relatively low habitat scores have potential to override fish and macroinvertebrate data which would otherwise have indicated not full support. EPA recommends DEQ consider scoring SHI percentiles the same as for SMI and SFI (i.e., 1,2,3), and averaging the SMI, SFI and SHI to determine the overall site score. In the example above, this would result in averaging 1, 2 and 2, resulting in a final score of 1.67.	See response to 7.11 (Habitat, SHI scoring).
Habitat	SHI scoring	17	337	Section 5.5.1.3.1 and Figure 5.5: It is unclear as to how the stream habitat index data is integrated into the final aquatic life use support decisions. EPA recommends DEQ clarify in the assessment guidance how this data will be integrated.	The SHI is integrated according to Section 6.4.
Habitat	SHI scoring	32	351	Stream Habitat Index Discussion: After discussing the Stream Habitat Index, EPA was better able to understand DEQ's rationale for using 1 and 3 to account for the uncertainty associated with using habitat to make listing decisions. EPA acknowledges the complexity of this issue and realizes there is not a simple means to address this issue. EPA and DEQ agreed that it may not be the best idea to consider habitat equally at this time. Potential Action: EPA encourages DEQ to continue thinking about how to best reflect the uncertainty in the scoring method used in the Stream Habitat Index and suggests DEQ include an explanation in this policy document for how they use habitat data.	DEQ revised the SHI scoring to reflect additional analysis we performed. Section 6.4. explains how we used analyses of discrimination efficiencies and Type I/II erros to determine appropriate breakpoints for condition ratings. The SHI now uses a 3, 2, 1 scoring approach.

Comment Type	Comment SubType	Correspon-dance ID	Comment Number	Specific Comment (verbatim)	Response
Index integration	scoring	32	350	Percentile Selection Discussion: Confusion arose as to what EPA intended by their comment about percentile selec-tion. Through discussion, it became clear that EPA was looking for a more clear explanation of how DEQ uses thresholds for single versus multiple assemblage data. Additionally, EPA was looking for further explanation of how DEQ accounts for natural variability within the environment, between different bioregions and between different reference sites. EPA appreciates DEQ's explanation on how nat-ural variability is accounted for via the scoring methods. EPA acknowledges that threshold and percentile selection is a policy call that the states have discretion to set internally. Potential Action: We request DEQ find a way to incorporate these explanations into the text of their policy document, as it would greatly increase the public's under-standing of DEQ's policy.	See response to 16.157 (Index integration, scoring) regarding the elimination of the overwhelming score approach (see also Section 6.4.2.2.). DEQ revised WBAG II to explain how the index classification system and reference selection account for natural variability. However, more specifics are provided in the supporting technical documents.
Introduction – Section 1	criteria	17	191	1.1 Intent. Second to last sentence suggest adding "....assessment of beneficial use status and compliance with numeric and narrative criteria."	See response to 17.183 (Criteria, exceedance, narrative criteria).
Introduction – Section 1	criteria	17	192	Section1, 1.2. Overview (page 1-1). Add another objective such as "Determine the degree of numeric and narrative criteria exceedances."	See response to 17.183 (Criteria, exceedance, narrative criteria).
Introduction – Section 1	editorial	17	193	1.4.1. Clean Water Act (page 1-5). Suggest rewording last sentence, second paragraph to "...while the EPA provides oversight of Idaho's fulfillment of CWA requirements and responsibilities."	Revised accordingly.
Introduction – Section 1	editorial	17	194	Figure 1-3 (page 1-7). Suggest adding a label for the large portion of the pie.	Figure 1-3 has been revised.

Comment Type	Comment SubType	Correspon-dance ID	Comment Number	Specific Comment (verbatim)	Response
Macroinvertebrates	SMI development	17	344	Primary Concern...EPA encourages DEQ continue development of the Macroinvertebrate and Fish indices to increase the predictive ability for the Northern Mountain Bioregion.... In the interim, EPA suggests selecting a higher percentile/threshold or reexamining the classification scheme for the Northern Mountain Bioregion in order to ensure prediction levels are comparable to other areas of the state.	See response to 7.345 (Macroinvertebrates SMI development) and EPA's clarification letter (September 27, 2001, Editorial Clarification and Percentile Selection) with suggested rewording of this comment. EPA does not believe the macroinvertebrate and fish indexes are a primary concern. See also 32.350 (Index integration, scoring).
Other waters	intermittent	17	181	Secondary Policy Concerns...In our May 6, 1999, letter, EPA requested that DEQ develop procedures for evaluating intermittent streams for the next listing cycle, now 2002. This second edition of WBAG also does not apply to intermittent streams (section 1.3). How will DEQ make listing or de-listing decisions regarding intermittent streams?	WBAG II provides guidance to make beneficial use support determinations. Since these determinations may be used for different purposes (i.e., subbasin assessments, legislative reports, 303(d) lists, 305(b) reports), DEQ has elected to provide more detailed 303(d) listing guidance separately under the Idaho 303(d) / 305(b) Reporting Guidance (in preparation). Also see responses to 16.143 (Other waters, intermittent) and 11.51 (Reference, site selection).
Reference	scoring support determination	17	174	Primary Concern...Within the description of DEQ's basis for threshold and percentile selection, EPA recommends DEQ include a discussion on how reference conditions which are less than pristine might impact the percentile that is appropriate to use.	If we had only pristine sites (waters without any human influence including recreation and aerial deposition) in our reference set we would likely use the lowest value observed, rather than the 25th percentile, as a threshold. Realistically all sites could be considered less than pristine, thus our reference set necessarily includes less than pristine sites and we choose the 25th percentile to ensure beneficial uses are supported. EPA's comment clarification letter of Sept. 27th, 2001 (see Appendix G), acknowledges that "threshold and percentile selection is a policy call that the states have discretion to set."

Comment Type	Comment SubType	Correspon-dance ID	Comment Number	Specific Comment (verbatim)	Response
Reference	site selection	32	352	Reference Condition Discussion: In the language EPA used to frame a comment, EPA used the phrase “not true ref-erence condition.” EPA clarified that the intent of the comment was to request additional description about how DEQ accounted for natural variability within the environment, between bioregions and between the different reference sites. The term “not true reference condition” was an unfortunate choice of words. EPA used “not true” as a means to differentiate between reference sites that are pristine and those that contain some human impact. Idaho uses the latter as reference condi-tion, which is consistent with their definition of “reference stream or condition” in their water quality standards (see IDAPA 16.01.02.003.85). DEQ’s approach to using reference sites is appropriate and consistent with Idaho’s water quality standards. Potential Action: EPA requests DEQ include additional description of reference site selec-tion process and a description, list or map of specific reference sites DEQ currently uses in the Water Body Assessment Guidance.	DEQ provides detailed information of the reference site selection process for each index in the supporting technical documents. These documents also provide a list of reference sites used to develop the particular index. Section 6.1. also provides an overview of the methods used to develop reference condition.
Water body size	editorial	17	203	Chapter 2, Example, page 2-3: In table 2-3, the average depth for Raft River is listed as 1.6 m, which is characteristic of large water bodies according to table 2-1. Is 1.6 a typographical error?	Table 2.3 in the Idaho Small Stream Ecological Framework document did contain an error. The average depth of the Raft river was 0.16 meters not the 1.6 reported in the document.

Comment Type	Comment SubType	Correspon-dance ID	Comment Number	Specific Comment (verbatim)	Response
Water body size	wetted width	17	215	Future consideration... Wetted width vs. Bankfull width: In Idaho Small Stream Assessment Framework, page 2-1, water body size criteria, the average width measurement uses wetted width at base flow. Although wetted width is easier to measure, it is variable with the time of measurement. Since baseflow is variable both within and among seasons, even measurements taken during baseflow are prone to variation. While measuring bankfull is more difficult, requires more expertise and can be subjective, it is generally regarded as a more meaningful measure of stream size. In the future, EPA recommends DEQ convert to using bankfull width measurements to make water body size determinations.	We will investigate using bankfull measurements to help determine water body size in future iterations of the WBAG.
Water quality standards	general	17	178	Primary Concern...EPA encourages Idaho to provide a clearer link between the elements of this policy and Idaho's Surface Water Quality Standards. EPA recommends citing Idaho's Water Quality Standards more often in this assessment guidance.	DEQ has provided additional citations to the Idaho water quality standards throughout the guidance. Also see EPA clarification letter (September 27, 2001, Policy Concerns vs. Helpful Tips, Bullet 3) or comment 32.356 (Water quality standards, general).
Water quality standards	general	17	214	Future consideration...A clear link should exist between Idaho's Water Quality Standards and list methodology. EPA recommends that reference be made within the state's Water Quality Standards to the processes documented in the list methodology for interpreting attainment/non-attainment of water quality standards.	See response to 17.178 (Water quality standards, general).
Water quality standards	general	32	356	Clear link to Idaho water quality standards. EPA's request for DEQ to more frequently cite their water quality standards was meant as encouragement, not as an indication that the document was inconsistent with their standards. EPA acknowledged that DEQ has cited their standards in numerous places throughout the WBAG document.	DEQ added a stronger linkage to Idaho's Water Quality Standards throughout the guidance according to EPA recommended citations.

Comment Type	Comment SubType	Correspon-dance ID	Comment Number	Specific Comment (verbatim)	Response
Water supply	public water systems	17	202	7.2. Domestic Water Supply (page 7-1). Procedures in this section appear reasonable, but provisions in Idaho water quality standards cited in this section (Subsection 252) appear to need updating. The table in Section 252 lists small drinking water supplies with surface water sources. Although outside the scope of the WBAG, this table appears to not be complete, e.g. Atlanta in Boise County is not listed. In addition, it is not clear why only small surface water supplies are designated, since there are larger systems in the state with surface sources, e.g., United Water, etc. Source water quality would seem to be of concern to large and small systems alike.	This comment is beyond the scope of WBAG II, which addresses current Idaho regulations and water quality standards. These points will be forwarded to the drinking water manager and water quality standards manager.
Water supply	support determination	17	346	Secondary Policy Concerns...Chapter 6: Contact Recreation and Chapter 7: Water Supply Use Support Determination. EPA discourages states from presuming unassessed waters or waters with limited data are attaining water quality standards and meeting beneficial uses. EPA suggests monitoring these waters, possibly with a probability-based design, to enable these low risk waters to be classified as full-support, not full-support, or unassessed. Also, see the next comment on Extrapolation following [comment 17.186 (Data representation, methods)].	For contact recreation, please see 17.185 (Contact recreation, support determination). DEQ does not have specific methods for assessing water supply using BURP data. Given resource requirements of other priorities, we have chosen to work with other DEQ programs to assess this use. It seems reasonable, particularly for agricultural and industrial water supply, to assume these uses are full supporting unless evidence or information demonstrates otherwise. Since the water quality standards identify very few domestic water supplies using surface water sources and other DEQ programs address drinking water concerns, DEQ has directed assessment resources to other priorities. The request to develop a monitoring and assessment method for water supply will be forwarded to DEQ administration for future priority setting.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
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Reply To
Attn Of: OW-131 /s/ 9/27/01

Michael McIntyre
Water Quality Program
Department of Environmental Quality
1410 North Hilton
Boise, Idaho 83706-1255

Re: Clarification of EPA's Comments on Department of Environmental Quality's (DEQ) December 2000 Final Draft Water Body Assessment Guidance, Stream Ecological Assessment Framework and River Ecological Assessment Framework

Dear Mr. McIntyre:

The Environmental Protection Agency (EPA) appreciated the opportunity on July 6, 2001 to discuss with you and your staff our June 4, 2001 comment letter. The clarification and additional explanation obtained via this face-to-face meeting greatly enhanced our understanding of Idaho's second edition of the Water Body Assessment Guidance (WBAG). EPA appreciates DEQ staff willingness to travel to our Seattle office and work together toward gaining a better understanding of our comments. Again, EPA would like to commend DEQ on the effort that has gone into creating a documented methodology for assessing water quality and using biological, chemical and physical data to make water quality standards attainment and listing decisions.

Through this meeting and the clarification request letter sent by DEQ, we realize there were a number of EPA's comments that were misunderstood due to the format of the document or particular language usage. The meeting was quite productive. EPA believes our policy concerns were adequately discussed and resolved. This letter identifies the topics clarified and brought to resolution and those having a mutually agreed upon follow-up action associated.

EPA would like to note that our previous comments on WBAG and this letter are occurring prior to the release of the 2002 EPA 303(d) listing guidance. While issuance of this guidance is imminent, we acknowledge DEQ's desire to have a response from EPA and to move forward in revising WBAG. In order to respond before national policy is finalized, we based our June 4, 2001

comments and the clarifications addressed in this letter on the existing regulation, policy and guidance. I apologize for the inconvenience and delay created by the unavailability of EPA's 2002 listing guidance.

Policy Concerns Discussed, Modifications Anticipated

We believe we reached agreement in principle on the following topics. DEQ indicated they would consider revising language in the relevant WBAG sections to address our points.

Outside data
(second bullet, under "Outside Data" section of EPA's June 4, 2001 comment letter)

Discussion: EPA had expressed concern regarding restriction of outside data. This comment referred to the second edition of Idaho's Waterbody Assessment Guidance, section 3.3, page 3-6, second to last sentence, which indicates that data that has not been analyzed or had clear conclusions drawn from it prior to submission would not be used **alone** to make decisions. The last sentence in the same section indicates that data without analysis and conclusions drawn would not be used **at all**. EPA pointed out the confusion generated by the two sentences. Additionally, EPA pointed out that Figure 3-2, on page 3-7 might also benefit from the clarification as to whether DEQ will use data submitted without analysis and conclusions drawn alone or in conjunction with other data.

Potential Action: EPA's June 4, 2001 comment letter suggested language that might meet both agencies needs. DEQ indicated they would internally discuss and consider amending the wording in section 3.3, page 3-6.

Percentile Selection
(first bullet under "Percentile Selection" section of EPA's June 4, 2001 comment letter)

Discussion: Confusion arose as to what EPA intended by their comment about percentile selection. Through discussion, it became clear that EPA was looking for a more clear explanation of how DEQ uses thresholds for single versus multiple assemblage data. Additionally, EPA was looking for further explanation of how DEQ accounts for natural variability within the environment, between different bioregions and between different reference sites. EPA appreciates DEQ's explanation on how natural variability is accounted for via the scoring methods. EPA acknowledges that threshold and percentile selection is a policy call that the states have discretion to set internally.

Potential Action: We request DEQ find a way to incorporate these explanations into the text of their policy document, as it would greatly increase the public's understanding of DEQ's policy.

Stream Habitat Index
(third bullet under "Percentile Selection" section of EPA's June 4, 2001 comment letter)

Discussion: After discussing the Stream Habitat Index, EPA was better able to understand DEQ's rationale for using 1 and 3 to account for the uncertainty associated with using habitat to make listing decisions. EPA acknowledges the complexity of this issue and realizes there is not a simple means to address this issue. EPA and DEQ agreed that it may not be the best idea to consider habitat equally at this time.

Potential Action: EPA encourages DEQ to continue thinking about how to best reflect the uncertainty in the scoring method used in the Stream Habitat Index and suggests DEQ include an explanation in this policy document for how they use habitat data.

Reference Condition
(first bullet, second paragraph under "Percentile and Threshold Selection..." section of EPA's June 4, 2001 comment letter)

Discussion: In the language EPA used to frame a comment, EPA used the phrase "not true reference condition." EPA clarified that the intent of the comment was to request additional description about how DEQ accounted for natural variability within the environment, between bioregions and between the different reference sites. The term "not true reference condition" was an unfortunate choice of words. EPA used "not true" as a means to differentiate between reference sites that are pristine and those that contain some human impact. Idaho uses the latter as reference condition, which is consistent with their definition of "reference stream or condition" in their water quality standards (see IDAPA 16.01.02.003.85). DEQ's approach to using reference sites is appropriate and consistent with Idaho's water quality standards.

Potential Action: EPA requests DEQ include additional description of reference site selection process and a description, list or map of specific reference sites DEQ currently uses in the Water Body Assessment Guidance.

Policy Concerns Discussed and Resolved

"Criteria are to be considered independent of effect."
(3rd primary policy concern in EPA's June 4, 2001 comment letter)

As indicated by DEQ's June 26, 2001 letter, DEQ misunderstood the focus of EPA's comment to be on whether the 10% exceedence policy is appropriate in determining when a criteria exceedence equals a violation. The intended focus of EPA's comment was on the last line of paragraph 2 on page 4-1, which states, "...if the exceedence has had a negative effect, and thus is a violation of water quality standards." EPA was concerned that the wording might mislead people into thinking that a 10% criteria exceedence might be ignored if there was not an observed negative effect. This topic was resolved when DEQ clarified that if criteria are exceeded by 10% of the samples, regardless of observed negative effect, they would list the waterbody. EPA felt satisfied with DEQ's clarification and DEQ agreed to reconsider the wording of the sentence.

Editorial Clarifications

- In the heading "Percentile and Threshold Selection..." section of EPA's June 4, 2001 comment letter, EPA referred to BPI, an incorrect acronym for Biological and Physicochemical index. EPA acknowledges this index is actually a collection of biological and physicochemical indices, including RMI, RFI, RDI and RPI. EPA clarified that the focus of the comment was on reference site selection in a general sense.
- In bullet 2 under "Percentile Selection" section of EPA's June 4, 2001 comment letter, EPA intended to encourage DEQ to continue development of Macroinvertebrate and Fish indices and to voice our agreement with DEQ that they should continue work to improve the SMI for the Northern Mountains Bioregion. This intent may have been more clear had there been a period after the first line and the second sentence should begin "EPA recommends DEQ continue work to increase..." This comment was included among Primary Policy Concerns not as a policy concern, but because it was related to a policy comment.

Policy Concerns vs. Helpful Tips

In our June 4, 2001 comment letter, our comments fell into three categories, primary policy concerns, secondary policy concerns and editorial comments/other suggestions. Generally, primary policy concerns are those most likely to contribute to list approval issues. However, we included some comments that were related to the primary policy concerns, but were not actual primary policy concerns. EPA acknowledges and regrets the confusion caused by grouping helpful suggestions with primary policy concerns. A few examples of where helpful hints might have been misconstrued as primary policy concerns:

- Outside Data section, bullet 1: EPA clarified that this was a general reminder to be as inclusive as possible when seeking public comments.
- Outside Data section, bullet 3: EPA clarified that the comment about Tier II data, made in conjunction with their comment on outside data was a helpful hint, included in this section because it is related.
- Primary concern #4, Clear Linkage with Idaho's Water Quality Standards: EPA's request for DEQ to more frequently cite their water quality standards was meant as encouragement, not as an indication that the document was inconsistent with their standards. EPA acknowledged that DEQ has cited their standards in numerous places throughout the WBAG document.
- Primary concern #5, regarding natural condition, was included because it related to EPA's request for DEQ to more frequently cite their water quality standards in the WBAG document. Additionally, DEQ clarified that WBAG is not the list development methodology document to be turned in with the 303(d) list, as per 40 CFR 130.7(b)(6)(i). DEQ indicated that a separate list methodology is in the works.

Additional Topics Discussed

The following topics were resolved at the July 6, 2001 meeting and are related to, but had not been previously described in, EPA's June 4, 2001 comment letter.

<u>Recommendations vs. Requirements</u>

One topic discussed was whether EPA's comments are requirements or recommendations, an issue which arose in subsequent comment letters received by DEQ. EPA clarified that it has a statutory duty to approve or disapprove the resultant 303(d) list, but there is no requirement to act to approve or disapprove the state's listing methodology. In order to minimize potential issues with the draft list

methodology, EPA reviews the list methodology that a state establishes and offers comments, suggestions and recommendations. While EPA encourages States to accept our recommendations, States are not bound to do so, as these documents are at the state's discretion.

Purpose of Document

EPA concurs with DEQ's understanding of the purpose of the Water Body Assessment Guidance (WBAG) document, which is to provide DEQ with a tool to identify when an impairment is present in a water body. The document is not a tool to identify downward trend, threatened waters, change in condition or areas of anti-degradation. This is appropriate, as the purpose of 303(d) list, as per implementing regulations at 40 CFR 130.7(b), is to "...identify those water quality-limited segments still requiring TMDLs."

Conceptual Model vs. On-the-ground Application

Models in concept and how a process works on-the-ground have potential to differ due to the complexities of the natural world. It is obvious that DEQ has invested considerable resources into ensuring principles of good science are incorporated into their waterbody assessment guidance. EPA is comfortable with DEQ moving forward with their approach and is interested in seeing how it works when applied. DEQ offered training on how the model works within the context of real world application. EPA would appreciate the opportunity to hear how the process is working as DEQ moves into more broad application of the model to make 303(d) list decisions.

If you have any questions or would like to discuss our comments, please feel free to contact me at (206)553-6977 or Kerianne Gardner on my staff at (206)553-0268.

Sincerely,

/s/ Paula vanHaagen

Paula vanHaagen, Manager
Standards and Planning Unit
Office of Water

cc: Mike Edmondson, DEQ
Cyndi Grafe, DEQ
Chris Mebane, DEQ
Don Essig, DEQ

STATE OF IDAHO

IDAHO DEPARTMENT OF ENVIRONMENTAL QUALITY

1410 North Hilton, Boise, ID 83706-1255, (208) 373-0502

Dirk Kempthorne, Governor
C. Stephen Allred, Director

June 25, 2001

Paula vanHaagen, Manager
Standards and Planning Unit
Office of Water
USEPA
1200 Sixth Avenue, OW-134
Seattle, WA 98101

Dear Ms. vanHaagen:

Thank you for providing comments on the Water Body Assessment Guidance, Second Edition (WBAG) and associated technical documents (EPA 2001a, 2001b). We appreciate the time EPA staff spent in reviewing the documents and providing comments. We also appreciate Kerianne Gardner's efforts to reach consensus among reviewers and compile the comments so that we had one set to address.

We look forward to meeting with you and discussing these comments further. To facilitate discussion of key issues for this meeting as well as assist us in responding to EPA's comments, we would appreciate your clarification of a few comments. Our questions are as follows:

1. Please provide us with more information regarding Primary Concern 2. Specifically, please provide us with information concerning the following questions:
   a. It appears that EPA is requesting more discussion of the reference approach for the SMI, SFI, and RPI. If this is correct, please clarify why the RPI was included in Primary Concern 2 since the RPI uses regression and power analyses to establish impairment categories.
   b. Bullet 1, 2nd paragraph, 2nd sentence: EPA states "This is relevant since many of the reference sites used in the analysis are not true reference sites." Please provide us with a list of sites that EPA believes are not "true reference" as well as information EPA considered prior to arriving at these conclusions.

c. Bullet 1, 2nd paragraph, 4th sentence: It appears EPA is recommending to use only "pristine" sites in establishing reference condition. If so, please clarify how using only "pristine" sites to establish reference condition is consistent with RBP protocols (Barbour 1999), EMAP methodology, CALM guidance, proceedings from the EMAP Reference Conference (held February 14-16, 2001), and methods used in other states. Also, it would be helpful to know which streams EPA considers "pristine" in Idaho.
d. In Bullet 2, EPA singled out the performance of the SMI and SFI in the Northern Mountains bioregion with no further basis given. We are familiar with this issue regarding the SMI, however, please explain how EPA found the SFI does not perform as well in the Northern Mountains bioregion as elsewhere.
e. Bullet 3, please clarify EPA's recommendation that the SHI should be integrated equally given its variability, Fore and Bollman's recommendations, draft CALM guidance, other states' assessment methods, and recent literature recommendations regarding the use of habitat measures in regulatory decisions (Bauer and Ralph 1999, 2001). Further, it appears that Washing DOE will be treating habitat as pollution and not a pollutant for which a TMDL is required (WDOE 2001). How does this compare with the EPA recommendation to us with respect to habitat used as a listing criteria?

2. Primary Concern 3 states "If criteria are exceeded, regardless of an observed effect on beneficial uses, a water quality standards violation has occurred". Please clarify this statement in terms of EPA's policy (EPA 1997) for conventional pollutants stating 10 percent of samples exceeding criteria indicates impairment.

3. More detail would be helpful for Primary Concern 4 since it is fairly general. Please specify where "clear linkage/ consistency" with Idaho's water quality standards did not occur in the document or where EPA believes the WBAG requires further support.

4. How was EPA's review of the WBAG conducted? This description might include information such as:
   a. Who was on the review team.
   b. How comments were incorporated and compiled.
   c. How comments were determined to be primary, secondary, editorial or future considerations.
   d. How consensus was reached on various issues.
   e. How this review compares with other Region 10 states. For instance, how does the Idaho review compare with the level of review of Washington's methodology. Do you anticipate Oregon's and Alaska's reviews to be handled similarly to Idaho's review?

As you may have concluded, we are particularly interested in information regarding Primary Concern 2. This primary concern focuses more on our technical approach to determine support status of water bodies. Many interested parties look to EPA as an objective authority in assessment approaches and review EPA's comments specifically when determining the acceptability of Idaho's program. We believe your clarification of the above items will not only assist Idaho DEQ but the public as well.

Sincerely,

Michael McIntyre
Manager, Surface Water Programs

Cc: Kerianne Gardner, Christine Psyk, Leigh Woodruff – EPA
Dave Mabe, Doug Conde, Don Essig, Mike Edmondson, Cyndi Grafe,
Chris Mebane – Idaho DEQ

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EPA. 2001a. Department of Environmental Quality's (DEQ) December 2000 final draft water body assessment guidance, stream ecological assessment framework and river ecological assessment framework. Letter from Paula vanHaagen, US Environmental Protection Agency, Region 10, Seattle, Washington. May 31, 2001.

EPA. 2001b. Correction to comment letter submitted by EPA on Department of Environmental Quality's (DEQ) December 2000 final draft water body assessment guidance, stream ecological assessment framework and river ecological assessment framework. Letter from Paula vanHaagen, US Environmental Protection Agency, Region 10, Seattle, Washington. June 4, 2001.

WDOE. 2001. Draft section 303(d) discussion paper for year 2002 list: pollution v. pollutant. Washington Department of Ecology, Olympia, Washington. April 6, 2001.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
1200 Sixth Avenue
Seattle, WA 98101

Reply To
Attn Of: OW-134 June 4, 2001

Michael McIntyre
Water Quality Program
Department of Environmental Quality
1410 North Hilton
Boise, Idaho 83706-1255

Re: Correction to Comment Letter Submitted by EPA on Department of Environmental Quality's (DEQ) December 2000 Final Draft Water Body Assessment Guidance, Stream Ecological Assessment Framework and River Ecological Assessment Framework

Dear Mr. McIntyre:

Upon submitting comments on May 31, 2001 for Idaho's Water body Assessment Guidance (second edition), EPA realized the document contained a few formatting errors. As these errors are cosmetic and not substantive, we are requesting this amended version replace our original submission. Following is a list of errata that was corrected.

Errata Corrected in May 31, 2001 Comment Letter

< Letter, page 2, First paragraph: a large space should not exist between "...below." and "Enclosed..."
< Letter, page 3, item number 3, "Criteria are..."should be underlined.
< Letter, page 3, item number 3: a one-line spacing should not exist between "...effect on..." and "...beneficial use...".
< Enclosure, page 1, item number 4: "Interpretation of Narrative Criteria" should be underlined.
< Enclosure, page 2, Editorial comments, 2 items under "General" should have triangle shaped bullets in place of the mailbox image and number 2.
< Enclosure, page 5, For Future Consideration, 2nd item "Wetted width vs. bankfull width" should not be underlined.
< All page numbers changed from "Page -X-" to "Page x of x"

If you have any questions or would like to discuss our comments, please feel free to contact me at (206) 553-6977 or Kerianne Gardner on my staff at (206) 553-0268.

Sincerely,

/s/ Kerianne M. Gardner for

Paula vanHaagen, Manager
Standards and Planning Unit
Office of Water

Enclosures: 2

cc: Mike Edmondson, DEQ
Cyndi Grafe, DEQ
Chris Mebane, DEQ
Don Essig, DEQ

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
1200 Sixth Avenue
Seattle, WA 98101

Reply To
Attn Of: OW-134 June 4, 2001

Michael McIntyre
Water Quality Program
Department of Environmental Quality
1410 North Hilton
Boise, Idaho 83706-1255

Re: Department of Environmental Quality's (DEQ) December 2000 Final Draft Water Body Assessment Guidance, Stream Ecological Assessment Framework and River Ecological Assessment Framework

Dear Mr. McIntyre:

The Environmental Protection Agency (EPA) appreciates the opportunity to review Idaho's second edition of the Water Body Assessment Guidance (WBAG) and the accompanying technical support documents. EPA acknowledges DEQ staff for their innovative work and willingness to integrate biological data into their water quality standards attainments decision process. The effort that has gone into creating a documented methodology for assessing water quality and using biological, chemical and physical data to make water quality standards attainment and listing decisions is obvious. EPA commends Idaho DEQ for addressing the substantial comments and suggestions in EPA's May 1999 letter regarding Idaho's 1998 303(d) list and Idaho's original Waterbody Assessment Guidance.

In providing comments on Idaho's WBAG put out for public comment in March 2001, EPA reviewed this document from the perspectives of it as a listing methodology and a technical guidance for addressing water quality. Technical soundness, consistency with the Clean Water Act (CWA), Idaho's Water Quality Standards and EPA policy and whether the protocols and policies are logical and understandable are a few of the areas we focused upon in our review.

Regional and headquarter EPA personnel from diverse backgrounds and expertise reviewed the documents. As EPA does not approve or disapprove the List Methodology, we

assessed the Guidance and technical frameworks for their impact on our ability to approve or disapprove the resultant 303(d) list. Our comments fall into three categories, primary policy concerns, secondary policy concerns and editorial comments/other suggestions. Generally, primary policy concerns are those most likely to contribute to list approval issues. The primary policy concerns we identified are related to the use of outside data, percentile choice for certain indices, criteria exceedance and observed effect, linkage between water quality standards and list methodology, and Idaho's WQS provision for natural condition. These concerns are described in order of importance below. Enclosed is an itemized comment document which describes our secondary policy concerns, editorial comments and other suggestions for increasing the user-friendliness of the document. The minor policy concerns and editorial comments are listed in the order they occur in the document.

We understand that the list methodology is meant to be a dynamic document, with adjustments made as standards and policies change. However, EPA hopes DEQ incorporates as many of the suggested changes as feasible at this version update for the benefit of the 2002 listing process.

Primary Policy Concerns

1. Outside data

< General: The state indicates it solicits data on the water bodies targeted for assessment from appropriate sources and provides a sample letter used to request the data. While it is appropriate to send letters to specific organizations that are likely to have relevant data, EPA recommends Idaho also issue a public notice to provide other parties reasonable opportunity to contribute data.

< Section 3.3 How Outside Data is Used in Aquatic Life Determinations, page 3-6: EPA supports the state's effort to improve the quality of data used to support water quality standards attainment decisions. However, requiring outside data to be analyzed and conclusions reached will unduly restrict the submission of data and possibly even its collection by outside parties and thus constrict available data for decision making. This would be counter to EPA regulation and guidance requiring states to evaluate all existing and readily available water quality-related data and information. EPA recommends DEQ add a sentence such as, "DEQ will primarily use BURP data and submitted data that has been analyzed and conclusions drawn, but other raw data meeting comparable QA/QC requirements can be used as well" and create additional comparability tables, like 3-1, for chemical and physical data needs.

< Tier II data appears very limited in use. EPA encourages DEQ to consider other ways for Tier II data to be used. One possibility is to use Tier II data as a "flag" to indicate where additional sampling is needed. Additionally, EPA hopes the state will encourage organizations currently collecting tier II data to progress toward collecting tier I.

2. Percentile and Threshold Selection for SMI, SFI (Streams) and BPI (Rivers)

< The focus of discussion in the guidance is on how the 25th percentile is conservative enough to identify sites in good condition. However, a less conservative (10th percentile) condition rating of 2 is used as a threshold when multiple data sets are integrated. Not enough discussion is presented on DEQ's basis for selection of a condition rating of 2 or 10th percentile as a threshold to identify impaired waters, particularly given concerns about identifying true reference conditions. EPA recommends DEQ clearly describe their policy for selecting a threshold for impairment and clearly describe the basis behind their percentile selection and condition rating in this assessment guidance.

< In the Idaho Small Stream Ecological Assessment Framework (Grafe, 2000) Jessup and Gerritsen suggest that the 25th percentile is commonly used by states as a threshold, and that some states have used a less conservative 10th percentile threshold "... if they have greater confidence that their reference sites are not stressed and their methods yield precise results ...." This is relevant since many of the reference sites used in the analysis are not true reference sites. They go on to note concern with such lower thresholds because decline in stream condition from median to 10th percentile would be inconsistent with anti-degradation and would not trigger a management response. Within the description of DEQ's basis for threshold and percentile selection, EPA recommends DEQ include a discussion on how reference conditions which are less than pristine might impact the percentile that is appropriate to use.

< EPA encourages DEQ continue development of the Macroinvertebrate and Fish indices to increase the predictive ability for the Northern Mountain Bioregion. EPA acknowledges that this is no small task, yet emphasizes the importance of a robust impairment identification process as basis for the 303(d) listing process. In the interim, EPA suggests selecting a higher percentile/threshold or reexamining the classification scheme for the Northern Mountain Bioregion in order to ensure prediction levels are comparable to other areas of the state.

< Additionally, EPA has concerns over how stream habitat index (SHI) score is integrated into a final use determination and how the SHI fits into the overall decision process. While the habitat condition rating is averaged with the other indexes, it appears to be weighted differently since the scores are only 1 and 3. For example, if fish and macroinvertebrate scores were 1 and 2 respectively, their average score would be 1.5. Integrating a habitat score in the 10th through 25th percentile (condition rating 3) would result in combined average score of 2, or full support. In other words, relatively low habitat scores have potential to override fish and macroinvertebrate data which would otherwise have indicated not full support. EPA recommends DEQ consider scoring SHI percentiles the same as for SMI and SFI (i.e., 1,2,3), and averaging the SMI, SFI and SHI to determine the overall site score. In the example above, this would result in averaging 1, 2 and 2, resulting in a final score of 1.67.

3. Criteria are to be considered independent of effect

In section 4: Criterion Evaluation and Exceedance Policy, paragraph 2, last sentence (page 4-10), DEQ describes flexibility to consider exceedances in context to determine a negative effect and violation of WQS. The language in this paragraph indicates that DEQ needs

evidence of impaired beneficial use for listing. EPA agrees that impairment of the use can be one reason for listing. However, evidence of negative effect on beneficial use is not necessary to determine whether a violation of water quality standards has occurred. If criteria are exceeded, regardless of an observed effect on beneficial uses, a water quality standards violation has occurred. In other words, the observation of negative effect on beneficial use may indicate a water quality criteria violation, but the absence of observed negative effect in the presence of criteria exceedance does not nullify the violation. EPA is concerned that language in this paragraph might be misapplied and result in not listing waters that are impaired. EPA recommends clarifying the language in this paragraph. One suggested wording: "The intent of this section is to publicly establish the guidelines for determining if a particular criteria exceedance has resulted in a water quality impairment."

4. Clear linkage/consistency with Idaho's Water Quality Standards
EPA encourages Idaho to provide a clearer link between the elements of this policy and Idaho's Surface Water Quality Standards. EPA recommends citing Idaho's Water Quality Standards more often in this assessment guidance.

5. Natural Condition: Mentioned in section 4, page 4-1, last paragraph and again in section 4.2.2, page 4-6. Please cite Idaho's Water Quality Standards provision for natural condition in this assessment guidance. Additionally, since DEQ is interested in using this document as their 303(d) list methodology, it would be a good idea to clarify how this natural condition clause will be implemented. Important information to include in such a section might be: section in Water Quality Standards where the provision is located, method for establishing natural background conditions, an explanation of the administrative process to adopt site specific criteria for natural background and the process that must occur prior to these site-specific criteria becoming effective. As this process may take time, DEQ may also want to provide guidance for how assessors should make decisions prior to adoption and approval of these site specific criteria.

If you have any questions or would like to discuss our comments, please feel free to contact me at (206) 553-6977 or Kerianne Gardner on my staff at (206) 553-0268.

Sincerely,

/s/ Paula

Paula vanHaagen, Manager
Standards and Planning Unit
Office of Water

Enclosure

cc: Mike Edmondson, DEQ
Cyndi Grafe, DEQ
Chris Mebane, DEQ
Don Essig, DEQ

Amended June 4, 2001

ADDITIONAL COMMENTS ON IDAHO'S WATERBODY
ASSESSMENT GUIDANCE, SECOND EDITION DECEMBER 2000

Secondary Policy Concerns

Predictive Modeling
Predictive modeling is considered Tier 1 data which DEQ intends to use in making 303(d) list decisions. Though predictive modeling is one of the data pieces included under 40 CFR 130.7 (b)5(ii), EPA is concerned that DEQ's heavy reliance on modeling without having detailed guidance in place to explain how Idaho will use predictive modeling may result in misuse of modeling results and misidentification of impaired waters. EPA recommends DEQ develop and publish clearly articulated guidance on DEQ's protocol for the use of predictive modeling.

Intermittent Streams
In our May 6, 1999, letter, EPA requested that DEQ develop procedures for evaluating intermittent streams for the next listing cycle, now 2002. This second edition of WBAG also does not apply to intermittent streams (section 1.3). How will DEQ make listing or de-listing decisions regarding intermittent streams?

"Permanent, negative effect"
Section 4, page 4-1, 3rd paragraph, 3rd sentence states "…some criteria are exceeded temporarily and do not result in a permanent, negative effect on the beneficial uses." EPA is concerned that this wording here may change an underlying level of protection established in Idaho's WQS which refers to temporary effects. EPA recommends DEQ more thoroughly explain their interpretation of "permanent negative effects" so that it is consistent with the associated sections of Idaho's WQS.

Interpretation of Narrative Criteria
Section 4.1, third paragraph: The discussion notes that narrative criteria currently apply for nutrients and sediment. However, DEQ provides very little description as to how those narrative criteria are to be interpreted. EPA recommends including more detail, especially for nutrient-related and sediment provisions, such as a list of data DEQ is willing to consider and a description on how to interpret these data. at least for nutrient-related and sediment provisions.

Describe Process for Identifying Pollutants
Chapter 5: Aquatic Life Support Determination: For impaired waterbodies identified based on biological data, the process to identify the pollutants causing the impairment is unclear. EPA recommends DEQ include a subsection to explain what steps will be taken to identify the pollutants causing the impairments.

Presuming Use Support:

Chapter 6: Contact Recreation and Chapter 7: Water Supply Use Support Determination. EPA discourages states from presuming unassessed waters or waters with limited data are attaining water quality standards and meeting beneficial uses. EPA suggests monitoring these waters, possibly with a probability-based design, to enable these low risk waters to be classified as full-support, not full-support, or unassessed. Also, see the next comment on Extrapolation following.

Stream Representativeness and Extent of Extrapolation

To improve the effectiveness of this document as a 303(d) list methodology, EPA recommends DEQ include a subsection explaining their methods and rationale for selecting stream sampling locations, explain what the selected segments represent, and describe the extent to which DEQ extrapolates data to make water quality decisions for the greater stream network. Additionally, EPA recommends DEQ explain its policy on correlating upstream and downstream sites when making a waterbody impairment decision. A specific example of where this issue arises in the document can be found in *Idaho Small Stream Assessment Framework* Chapter 2, page 2-2. There the document discusses how streams are stratified based on size, drainage, order and discharge area, but does not explain what these segments represent.

Use of Fish Tissue Data and/or Fish Consumption Advisories

DEQ's policy on the use of fish tissue data and fish consumption advisories in development of their 303(d) list is not apparent. To increase the effectiveness of the WAG as a 303(d) list methodology, EPA recommends adding a section or subsection describing their policies on use of fish tissue data and fish consumption advisories. DEQ may refer to the memo EPA issued on October 24, 2000, for guidance on addressing the use of fish consumption advisories in 305(b) and 303(d) listing.

Editorial Comments

General

< Add ALUS to the acronym lists in WAG and Idaho River Ecological Assessment Framework (it is present in the Small Streams Ecological Assessment Framework).

< For readers unfamiliar with this term, please provide a definition for "a priori" in the policy glossary.

Executive Summary (page xi):

< Add another main objective, such as "Determine the degree of numeric and narrative criteria exceedances."

Section 1: Waterbody Assessment Guidance Overview

< 1.1 Intent. Second to last sentence suggest adding "...assessment of beneficial use status **and compliance with numeric and narrative criteria**."

< Section1, 1.2. Overview (page 1-1). Add another objective such as "Determine the degree of numeric and narrative criteria exceedances."

< 1.4.1. Clean Water Act (page 1-5). Suggest rewording last sentence, second paragraph to "...while the EPA provides oversight of Idaho's fulfillment of CWA requirements and responsibilities."

< Figure 1-3 (page 1-7). Suggest adding a label for the large portion of the pie.

Section 2: Monitoring Design and Data Representation Policy

< 2.2.1. Waterbody Identification System (page2-2). In the last sentence of the first paragraph, we believe canals which are tributary to a water of the U.S. should be identified and coded in the system. Please clarify how these waters are handled.

Section 3: Existing and Readily Available Data Policy

< Table 3-1: Grammatical correction: change "consider" in second column heading to "consider**ed**"

< 3.2.2: The text notes that "data must be relevant as well as scientifically rigorous to be incorporated into the assessment process" and that DEQ "considers data representation information" when assessing data relevance. EPA recommends DEQ define the terms 'relevant' and 'data representation information'. For example, regarding the data relevance statement, the text might note that "data must be relevant to designated uses as well as...."

< 3.2.3.1 (page 3-5). Suggest clarifying in the text and/or table how field data such as pH, DO, temp, turbidity would be classified. Could these data types be Tier 1 if there is an established QA/QC plan?

Section 4: Criterion Evaluation and Exceedance Policy

< It would be helpful to put the Policy Rationale (4.2.5) immediately following the policy introductory paragraph on page 4-1. You might preface the rationale with "*As you read the following criteria exceedance policies, please take the following into consideration...*" Then continue with the explanation on variability et. al.

< Paragraph 3, page 4-1: Use bullets to separate out the possible reasons for an exceedance not resulting in an impaired waterbody identification.

< Paragraph 3, page 4-1: For readers unfamiliar with Idaho's Water Quality Standards, it would be helpful to refer to the natural condition clause in Idaho's Water Quality Standards in this list methodology.

< Section 4.2.1: The first sentence notes that DEQ may not determine a numeric criteria violation for DO, pH, turbidity or total dissolved gas until greater than 10% of the measurements are above the criteria. The second sentence notes that a minimum of two samples must be evaluated to determine whether an exceedance of the 90th percentile has occurred. Is this criteria intended to be an "and" or and "or" policy? Does there need to be 2 measurements **and** at least 10% violation? A simple language change may add clarity to this paragraph, one suggestion might be: Begin paragraph with the policy, then explain it. For example: "*A minimum of two measurements in any of these parameters must be evaluated **and** greater than 10% exceedance must be observed before a determination of exceedance can be made (WADOE 1997, EPA 1997a).*"

< Section 4.2.5, third paragraph: While the discussion notes that the 10 percent measurement frequency policy stated in this guidance 'concurs' with similar Washington and Illinois State guidance/policy and with EPA policy, we recommend that this section be revised to address the specifics of Idaho's Water Quality Standards.

Section 5: Aquatic Life Use Support Determination

< Section 5.5.1.3.1 and Figure 5.5: It is unclear as to how the stream habitat index data is integrated into the final aquatic life use support decisions. EPA recommends DEQ clarify in the assessment guidance how this data will be integrated.

Section 7: Water Supply Use Support Designation

< 7.2. Domestic Water Supply (page 7-1). Procedures in this section appear reasonable, but provisions in Idaho water quality standards cited in this section (Subsection 252) appear to need updating. The table in Section 252 lists small drinking water supplies with surface water sources. Although outside the scope of the WBAG, this table appears to not be complete, e.g. Atlanta in Boise County is not listed. In addition, it is not clear why only small surface water supplies are designated, since there are larger systems in the state with surface sources, e.g., United Water, etc. Source water quality would seem to be of concern to large and small systems alike.

Idaho Small Stream Assessment Framework

< Wetted width vs. bankfull width (see "Future Considerations" section)

< Chapter 2, Example, page 2-3: In table 2-3, the average depth for Raft River is listed as 1.6 m, which is characteristic of large waterbodies according to table 2-1. Is 1.6 a typographical error?

< In chapter 5 of the Small Streams Framework and in the Waterbody Assessment Guidance, a description of the nature and resolution of the habitat data should be made.

< Conclusions, paragraph 2 (page 5-106): Possible typographical error. The authors state that " .... human disturbance may be the ultimate cause, but the habitat measure is the mechanism that actually degrades the biological assemblage." The following language may lend clarification: "...habitat measure is the mechanism that actually **measures the degradation** of the biological assemblage."

Suggestions to Increase User-friendliness

< To enhance the usefulness of this guidance as a 303(d) list methodology, it is important for the public to know what specific data and information DEQ requires to demonstrate a use impairment (e.g., are photos adequate to demonstrate an erosion problem, or does DEQ require calculated lateral recession rates?). EPA recommends DEQ clearly describe the type and amount of information DEQ needs to make a use support determination.

< Describe Process for Changing the Boundary of a Listed Water: It is not immediately clear how a waterbody boundary might be changed in the context of the WAG. If DEQ has a standard procedure and has acceptable rationales established for changing waterbody boundaries, EPA recommends inserting a sub-section to describe these procedures.

For Future Consideration

< A clear link should exist between Idaho's Water Quality Standards and list methodology. EPA recommends that reference be made within the state's Water Quality Standards to the processes documented in the list methodology for interpreting attainment/non-attainment of water quality standards.

< Wetted width vs. Bankfull width: In Idaho Small Stream Assessment Framework, page 2-1, waterbody size criteria, the average width measurement uses wetted width at base flow. Although wetted width is easier to measure, it is variable with the time of measurement. Since baseflow is variable both within and among seasons, even measurements taken during baseflow are prone to variation. While measuring bankfull is more difficult, requires more expertise and can be subjective, it is generally regarded as a more meaningful measure of stream size. In the future, EPA recommends DEQ convert to using bankfull width measurements to make waterbody size determinations.

< EPA commends DEQ for their laudable effort to capture characteristics of instream habitat and to determine how those characteristics respond to land use impacts. EPA encourages DEQ to continue their efforts to decipher appropriate instream indicators that correlate with watershed variables. In addition, EPA

encourages DEQ to continue to explore field methods that capture habitat data in a more quantitative fashion.

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